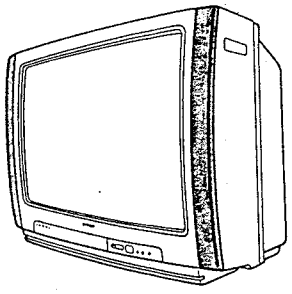
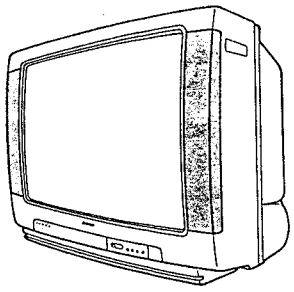
# SHARP SERVICE MANUAL
# 维修说明书

S82G325AN1///



25AN1



29AN1

## 28 SYSTEM COLOUR TELEVISION
## 28制式彩色电视机

***Chassis No. C-200***

MODELS 型号

# 25AN1
# 29AN1

In the interests of user-safety (Required by safety regulations in some countries ) the set should be restored to its original condition and only parts identical to those specified should be used.

为了用户安全起见(根据一些国家的安全规程的需要)，应将电视机保持于最初的状态，而且只能使用与指定物相同的部件。

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## WARNING

**The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No user — serviceable parts inside. Refer servicing to qualified service personnel.**

## 警 告

该电视机底板的有些部分通电。当维修本机底板时，请在电源线插头和电源插座之间使用隔离变压器。
为了防止电击的危险，不要去拆下机盖。在里面的部件，不是使用者所能维修的，必须委托够格的维修人员来进行维修。

SHARP CORPORATION

# ELECTRICAL SPECIFICATIONS

Power Input ..... AC 110-240V (Auto) 50/60Hz

Power Consumption
- **25AN1** ..... 155W
- **29AN1** ..... 185W

Convergence ..... Self Converging System
Focus ..... Bi-Potential, Uni-Potential Electrostatic
Sweep Deflection ..... Magnetic
Intermediate Frequencies
- Picture IF Carrier ..... 38.9MHz
- Sound IF Carrier
  - 6.5MHz ..... 32.4MHz
  - 6.0MHz ..... 32.9MHz
  - 5.5MHz ..... 33.4MHz
  - 4.5MHz ..... 34.4MHz
- Colour Sub-Carrier
  - PAL/NTSC ..... 34.47MHz
  - SECAM ..... 34.494/34.65MHz
  - NTSC ..... 35.32MHz

Audio Power Output Rating ..... 7.5W × 2 (Max.)
Speaker
- Size (25AN1) ..... 12cm × 6cm Oval × 2 pcs.
  (29AN1) ..... 12cm × 8cm Oval × 2 pcs.
- Voice Coil Impedance ..... 8 ohms at 400 Hz

*Specifications are subject to change without prior notice.*

Aerial Input Impedance ..... 75 ohm Unbalanced
Receiving Channels
- PAL-B/G, SECAM-B/G
  - VHF ..... E2 thru E12
  - UHF ..... 21 thru 69
  - CATV ..... S1 thru S3, M1 thru M10, U1 thru U10
- PAL-D/K, SECAM-D/K
  - VHF ..... R1 thru R12
  - UHF ..... 21 thru 69, China 57
- PAL-I
  - VHF ..... (IRELAND): B thru J
  - UHF ..... (U.K., H.K.): 21 thru 69
- NTSC-M
  - VHF ..... (US): 2 thru 13
    (JAPAN): 1 thru 12
  - UHF ..... (US): 14 thru 79
    (JAPAN): 13 thru 62
  - CATV ..... A-6 thru A-1, A thru W, AA

Receiving Frequency
- VHF ..... 48.25 thru 295.25 MHz
- UHF ..... 471.25 thru 863.25 MHz

# 电路规格

电源输入……110～240V交流(自动选择) 50/60Hz

功率消耗
- **25AN1** ..... 155W
- **29AN1** ..... 185W

聚焦……自聚焦系统
焦点……双电位、单电位静电焦点
扫描偏转……磁致偏转
中频
- 图象中间载频……38.9MHz
- 声音中间载频
  - 6.5MHz……32.4MHz
  - 6.0MHz……32.9MHz
  - 5.5MHz……33.4MHz
  - 4.5MHz……34.4MHz
- 彩色副载波
  - PAL/NTSC制式…… 34.47MHz
  - SECAM制式……34.494/34.65MHz
  - NTSC制式…… 35.32MHz

音响额定输出功率……2×7.5W(最大值)
扬声器
- 尺寸 **25AN1** ……12×6cm椭圆×2个
  **29AN1** ……12×8cm椭圆×2个
- 音圈阻抗…… 8Ω(400Hz时)

天线输入阻抗……75Ω非平衡式
接收频道
- PAL-B/G, SECAM-B/G
  - VHF(甚高频)……E2～E12频道
  - UHF(超高频)……21～69频道
  - CATV(有线闭路电视)…… S1～S3频道, M1～M10频道, U1～U10频道
- PAL-D/K, SECAM-D/K
  - VHF(甚高频)……R1～R12频道
  - UHF(超高频)……21～69频道, 中国57频道
- PAL-I
  - VHF(甚高频)……(爱尔兰)：B～J频道
  - UHF(超高频)……(英国、香港)：21～69频道
- NTSC-M
  - VHF(甚高频)……(美国)：2～13频道, (日本)：1～12频道
  - UHF(超高频)……(美国)：14～79频道, (日本)：13～62频道
  - CATV(有线闭路电视)……A-6～A-1, A～W

接受频率
- VHF(甚高频)……48.25～295.25MHz
- UHF(超高频)…… 471.25～863.25MHz

规格如有改变将不再预先通知。

# IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

## SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10 kohm Resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

## X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. When repairing the circuit, be sure not to increase the high voltage to more than 32.0kV (25AN1 / 29AN1), (at beam 0$\mu$A) for the set.
2. To keep the set in a normal operation, be sure to make it function on 28.7kV ± 1.5kV (25AN1) (at beam 1.4mA) / 29.6kV ± 1.5kV (29AN1) (at beam 1.5mA) in the case of the set. The set has been factory — Adjusted to the above-mentioned high voltage.
   ∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

## BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

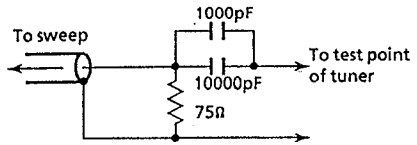
1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.

# SERVICE ADJUSTMENT
## PIF/AFT/SIF/AGC ADJUSTMENT

### TUNER IFT COIL

**The tuner has been factory preset (no adjustment is needed).**

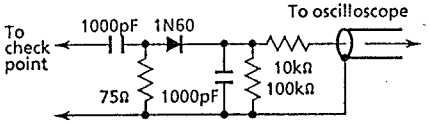
1. Keep the set without any signal input. Set $V_T$ voltage at 11V in $V_H$ band.
2. Connect sweep generator's output to the test point of tuner, by using a *75Ω DC cut probe.*




*Connection Diagram of 75Ω DC Cut Probe.*

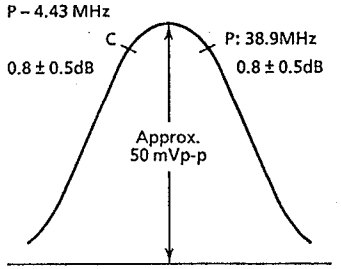
Note: The earth point of sweep generator's probe should be grounded closely to the tuner test point.

3. Output level of sweep generator: 80 dB
4. Connect response lead (*low impedance probe with detector*) to the IF output terminal of the tuner.




*Connection Diagram of Low Impedance Probe (with Detector).*

5. RF AGC: 0V.
6. Adjust the tuner IF coils to obtain the waveform as shown figure below.
   Note: For the adjustment, keep the tuner covered with its lid.




*Adjust so that "P"and "C" are at the same level.*

### VCO FREE-RUN FREQUENCY ADJUSTMENT: T2003

1. Keep the set without any signal input.
2. Make a short-circuit between TP2002 and ground.
   Measure the voltage at TP2001 with a multimeter and record the reading.
   Note: Use a multimeter that has a scale in mV.
3. Connect the sweep generator's output to the IF output terminal of the tuner.
   - Frequency: 38.9MHz (CW) ± 5kHz.
   - Sweep output level: 80 to 90dBμV.

   Note: Before starting this adjustment, keep IC2001 energized for more than 2 minutes.
4. Break the short-circuit between TP2002 and ground. Adjust T2003 so that the multimeter should read the same voltage as that in the above step 2.
   - Accuracy: Reading in step 2 ± 10mV (3.2kHz/mV).

   At this time, observe the waveform at TP201 (detection output) on the oscilloscope screen to make sure there is an output of approx. DC 3V.
   - Range: DC 1V/div.

   Note: Check the waveform on the oscilloscope screen for noises or beating. Any noise or beating means maladjustment.

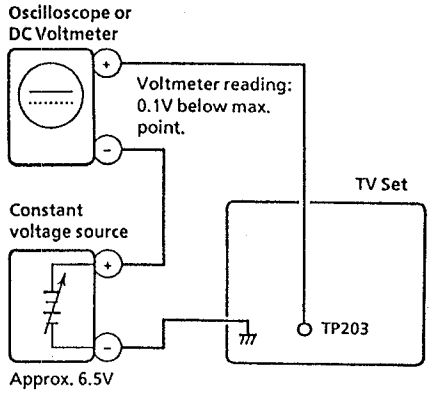




### RF-AGC CUT-IN CONTROL: R219

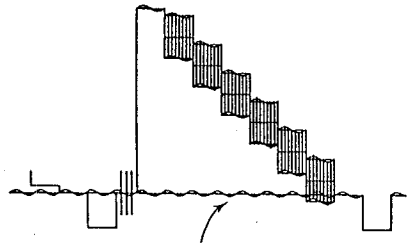
1. Tune the TV set in to the VHF high band (over channel E10) and receive "PAL COLOUR BAR" signal.
   - Field intensity: 57dB ± 1dBμV (with 75Ω terminated)

   Note: Adjust a 50-ohm field intensity meter to 55 to 56dB level if no 50/75 impedance transducer is used. Pay attention to a loss if using an impedance transducer.
2. Connect the oscilloscope or DC voltmeter to TP203.
3. Turn R219 to make the voltage highest.
4. Slowly turn R219 in the opposite direction until the voltage goes down 0.1V from the highest level.
5. Adjust the signal level to 63 to 67dBμV and make sure there is no noise.
6. Now adjust the signal level to 90 to 95dBμV and be sure that there is no cross modulation beat.




### AFT COIL: T2002

1. Tune the TV set in to the VHF high band (over channel E10) and receive "PAL COLOUR BAR" signal.
   - Signal strength: Over 55dB, Below 80dB
2. Connect oscilloscope to TP201.
   - Range: 0.5V/div.
   - Sweep time: 20μsec/div.
   - Synchronization: Horizontal sync.
3. Connect the output of SSG (Standard Signal Generator) to the tuner IF output terminal across a capacitor of 1pF.
   - SSG output frequency: 38.9MHz (CW) 38.9MHz ± 5kHz
   - SSG output level: approx. 50dB
4. Set the preset switch at VHF-H tuning position and adjust FINE button (Up or Down) of tuning control so that the output waveform suffers no beating.
5. Set the preset switch at NORMAL position.
6. Adjust T2002 so that no beating is caused at the output waveform.
   - Adjustment error: 38.900MHz ± 25kHz



Finely adjust to make zero the beating

## SOUND ADJUSTMENT

### RF-SUB-SOUND ADJUSTMENT: R234

1. Receive the "SECAM COLOUR BAR" signal.
   • Sound modulation: 400Hz, 60%.
2. Connect oscilloscope to TP1301.
3. Adjust R234 so that the 400Hz sine waveform is 0.6Vp-p.
   • Adjustment error: 0.6 ± 0.04Vp-p.

### SUB-SOUND ADJUSTMENT: R333

1. Receive the "PAL COLOUR BAR" signal.
   • Audio signal: 400Hz, 100% modulation
2. Connect the VTVM to TP1301.
3. Make sure the SURROUND mode is off.
4. Turn up the sound volume to maximum.
5. Adjust R333 so that the VTVM reading at TP1301 be 6.9 Vrms.

### NOISE MUTE CHECKING

1. Receive the "PAL COLOUR BAR" signal. If not available, receive any broadcast station.
2. Turn up the volume control all the way and make sure sound comes out of the speakers. Then shut off the signal.
3. Make sure the sound mute effect is on.



## PURITY ADJUSTMENT

***Note: During the adjustment, keep the unit facing the east.***

### PURITY ADJUSTMENT

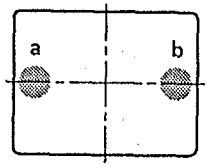



*Figure A.*

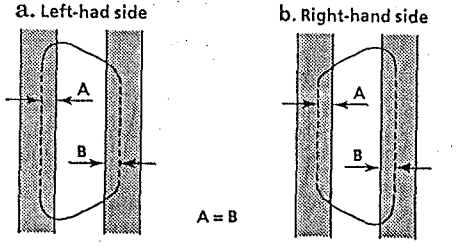



*Figure B. Rank "A" landing*

1. Prior to the purity adjustment, warm up the unit with beam current of 1.1mA, for more than 30 minutes.
2. Receive the green signal alone and adjust the Contrast control so that the beam current is 1.1mA.
3. Fully degauss the CRT with the degaussing coil.
   • Vertical $B_V$: $+0.20 \times 10^{-4}$T ( + 0.20gauss)
   • Horizontal $B_H$: 0T (0 gauss)
4. Set the purity magnet at the position which gives zero (0) magnetic field.

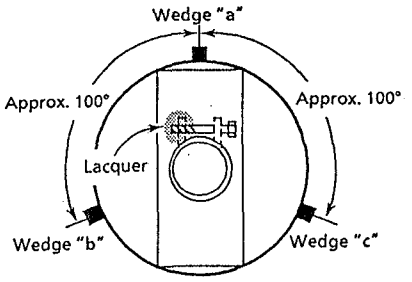
**Adjustment:**

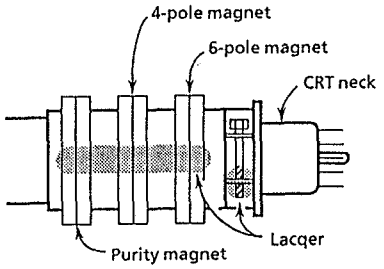
5. Observe the green spots ("a" and "b") with a microscope as shown *Fig. A*, and adjust the purity magnet so that they are at the specified landing position (Rank "A").
6. Set the raster rotation at "0" position (with the unit facing the east).
7. Tighten the screws of the deflection coil. Tightening torque: 11 kg ± 2 kg.
8. Look at the CRT corners. Apply the magnet sheets so that the landings should be of Rank "A".

## CONVERGENCE ADJUSTMENT

***Note: During the adjustment, keep the unit facing the east.***

### CONVERGENCE ADJUSTMENT



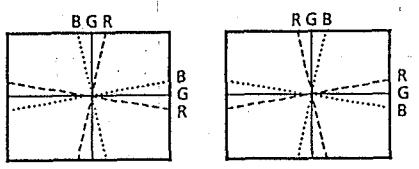




*Figure a.*




*Figure b.*

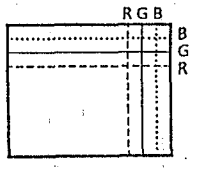



*Figure c.*

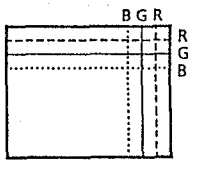



*Figure d.*

**This adjustment should be performed after the purity magnet adjustment.**

1. Receive "CROSSHATCH PATTERN" signal.
2. Set the Brightness control and Contrast control at MAX position.

### STATIC CONVERGENCE

3. Adjust the opening degree of the 4-pole magnet and rotate the magnet to converge red and blue lines.
4. Adjust the opening degree of the 6-pole magnet and rotate the magnet to converge red, blue and green lines.

### DYNAMIC CONVERGENCE

5. Dynamic convergence (convergence of the three colour fields) at the edges of CRT screen is accomplished in the following manner.

Convergence in *Fig. a*:
Insert wedge"a" between the deflection yoke and CRT, and tilt the deflection yoke upward until the mis-convergence shown in *Fig. a* is corrected.

Convergence in *Fig. b*:
Insert wedges "b" and "c" between the deflection yoke and CRT, and tilt the deflection yoke until the mis-convergence shown in *Fig. b* is corrected.

Convergence in *Fig. c*:
Insert wedge "c" deeply between the deflection yoke and CRT, and tilt the deflection yoke to right until the mis-convergence shown in *Fig. c* is corrected.

Convergence in *Fig. d*:
Insert wedge "b" deeply between the deflection yoke and CRT, and tilt the deflection yoke to left until the mis-convergence shown in *Fig. d* is corrected.

6. Stick the three wedges onto the CRT, and apply glass tapes thereon.
7. Apply lacquer to the deflection yoke screw, magnet unit (made of purity, 4-pole and 6-pole magnets) and magnet unit screw.

After the adjustment, receive either the Red or the Blue signal and check that there is no mixture with the other colour signal.



## HORIZONTAL AND VERTICAL CIRCUIT ADJUSTMENT

### VERTICAL LINEARITY: R514

1. Receive the "MONO SCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller.
3. Roughly adjust Vertical Size control R510 to given an 8% overscan.
4. Adjust R514 for optimum vertical linearity. This is achieved by making the upper and lower halves of the circular pattern symmetric.

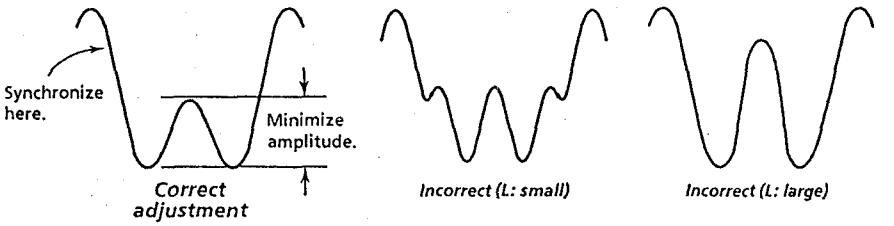
### VERTICAL CENTRE and VERTICAL SIZE

- S501: Vertical Centre
- R510: Vertical Size

1. Receive the "MONO SCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller.
3. Adjust Vertical Centre switch S501 at the position where thr pattern's vertical centre coincides with the CRT's geometrical vertical centre. S501 is a step-by-step rotary switch. Set it at the optimum position.
4. Adjust Vertical Size control R510 to obtain an 8% overscan.

### DYNAMIC "S"-CURVE CORRECTION: L606 (only 29AN1)

1. Receive the "MONO SCOPE PATTERN" signal.
2. Press the "N" key of the remote controller.
3. Connect the oscilloscope's probe across L603. (The earth lead should be connected to the junction with C2607.)
4. Adjust dynamic "S" curve correction coil L606 so that the correction signal waveform is synchronized and its amplitude minimum.




### HORIZONTAL SIDE PIN (only 29AN1), HORIZONTAL CENTRE and HORIZONTAL SIZE

- R644: Horizontal Side Pin (only 29AN1)
- R602: Horizontal Centre
- R632(29AN1): Horizontal Size
- L606(25AN1): Horizontal Size

1. Receive the "MONO SCOPE PATTERN" signal and roughly adjust Horizontal Size control L606 or R632 to give about 8% overscan.
2. Receive the "CROSSHATCH PATTERN" signal.
3. Press the "N" key of the remote controller.
4. Adjust the Side Pin control R644 to the optimum position, which is obtained where the second lines from the crosshatch pattern's right and left edges become straight. (only 29AN1)
5. Receive the "MONO SCOPE PATTERN" signal.
6. Align the pattern's horizontal centre with the CRT's geometrical horizontal centre by adjusting Horizontal Centre control R602.
7. Adjust Horizontal Size control L606 (25AN1) / R632 (29AN1) to give and 8% overscan.
8. Receive the "CROSSHATCH PATTERN" signal.
9. Readjust R644 accurately to achieve optimum side pin setting. (only 29AN1)

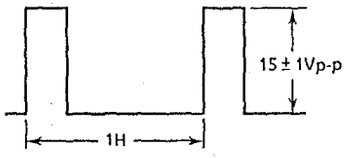
# VIDEO CIRCUIT ADJUSTMENT

## CRT CUT-OFF and SUB-BRIGHTNESS ADJUSTMENT

- R403 : Sub Bright
- R2816: Red Bias control
- R2817: Green Bias control
- R2818: Blue Bias control
- Screen control (a part of T601)
- R2811: Green Drive control
- R2812: Blue Drive control

Note: Prior to this adjustment, warm up the unit with the beam current of 1100$\mu$A for more than 30 minutes.

1. Receive "MONOSCOPE PATTERN" signal.
2. Set R-bias control at MIN (0/10) position.
   Set G-bias control at MIN (0/10) position.
   Set B-bias control at MIN (0/10) position.
   Set G-drive control at CENTER (5/10) position.
   Set B-drive control at CENTER (5/10) position.
3. Turn on the video "N" key on the remote controller.
4. Set the Contrast control at MIN position.
5. Set the Screen control at MIN (0/10) position.
6. Connect the oscilloscope to TP2801 (red cathode).
7. Set service switch S401 at the horizontal line position.
8. Adjust Sub-Brightness control R403 to obtain a blanking pulse level of 15V ± 1Vp-p at TP2801.




9. Disconnect thhe oscilloscope fromTP2801.
10. Slowly turn the Screen control clockwise and stop it where the horizontal raster appears slightly, in one of the three colours.
11. Carefully adjust the Bias controls of the other two colours until the horizontal raster becomes white.
12. Turn the Screen control counterclockwise until the horizontal raster just disappears.

## WHITE BALANCE and BACK GROUND

- R2811: Green Drive control
- R2812: Blue Drive control
- R416: Sub-Contrast control

Note: Prior to this adjustment, warm up the unit with the beam current of 1100$\mu$A for more than 30 minutes.

1. Receive "MONOSCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller. Contrast will thereby become maximum and brightness medium.
3. Connect the ammeter to TP601 and TP602. (Full scale: 3 mA)
4. Adjust the Sub-Contrast control to obtain a beam current of approx. 1.4mA (25AN1) or 1.5mA (29AN1). (rough adjustment)
5. Adjust Green Drive and Blue Drive controls to obtain a colour temperature of 9300°K (white).
6. Reduce the beam current to approx. 200$\mu$A by adjusting the Contrast and Brightness controls, and check the background colour. If the colour tempereture is not 9300°K, repeat the adjustment in step 5.

## SUB-CONTRAST CONTROL: R416

Note: Prior to this adjustment, warm up the unit with the beam current of 1100$\mu$A for more than 30 minutes.

1. Receive "MONOSCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller. Contrast will thereby become maximum and brightness medium.
3. Connect the ammeter between TP601 (−) and TP602(+), and select the 3mA range.
4. Adjust Sub-Contrast control to obtain a beam current of 1.4mA (for 25AN1) or 1.5mA (for 29AN1).
   Note:
   Beam current should become approx. 1.45mA (for 25AN1) or 1.55mA (for 29AN1) when both the Contrast and Brightness controls are set to maximum.



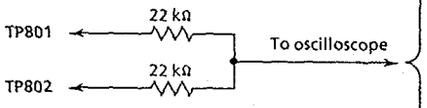
# CHROMA CIRCUIT ADJUSTMENT "PAL"

## PAL CHROMA ADJUSTMENT

- *R1810: 1H-delay amp. control*
- *T1801: 1H-delay phase control*

Note: PIF/AFT/AGC adjustments should have been completed before starting this adjustment.

1. Receive the "PAL COLOUR BAR" signal.
2. Connect the following resistance matrix to TP801 and TP802, to which an oscilloscope is connected.




*Resistance Matrix*

3. Set service switch S401 at the Video Cut position to cut off the Y-signal.
4. Press the video "N" key of the remote controller.
5. Operating the colour control key on the remote controller, adjust the difference between the green and magenta signal levels to 1.5Vp-p as shown in Fig. A.
6. Adjust R1810 and T1801 so that the output waveform becomes as shown in Fig. B.
7. Set service switch S401 to the centre position.

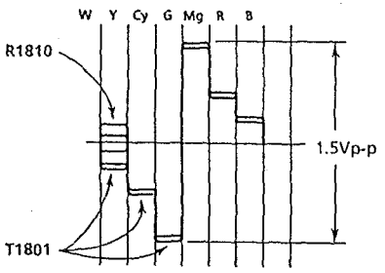



*Figure a. Waveform before the adjustment*

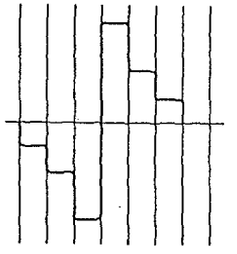
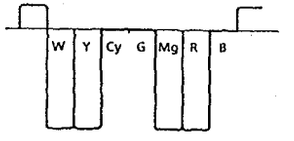


*Figure b. Waveform after the adjustment*

## PAL SUB-COLOUR: R1804

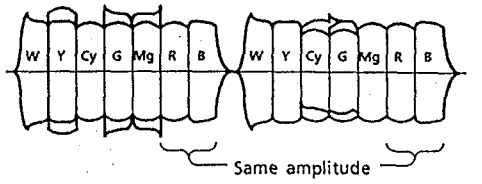
1. Receive the "PAL COLOUR BAR" signal.
2. Turn on the video "N" key of the remote controller.
3. Connect the oscilloscope to TP2801 (red cathode).
   - Range: 20V/div.
   - Sweep time: 20$\mu$sec/div.
4. Adjust R1804 so that the white signal (75%) and red signal have the same level as shown below.



## CHROMA CIRCUIT ADJUSTMENT "SECAM"

### BELL FILTER ADJUSTMENT: T1903

1. Receive "SECAM COLOUR BAR" signal.
2. Connect oscilloscope to TP901 with the following settings.
   - Range: AC 0.05 V/div.
   - Sweep Time: 20μsec/div.
   - Probe: 1/10 (30pF, 10MΩ or more)
3. Adjust the Bell Filter (T1903) so that the red and blue portions of the colour bar signal should have the same amplitude.



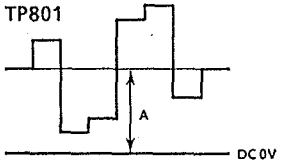

### SECAM KILLER ADJUSTMENT: T1904

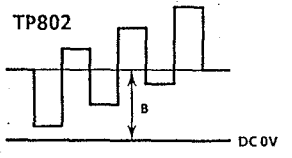
1. Receive "SECAM COLOUR BAR" signal.
2. Connect oscilloscope to TP902 with the following settings.
   - Range: DC 1V/div. (Adjust vertical position properly.)
   - Sweep Time: 20 μsec/div.
3. Adjust T1904 to obtain maximum DC voltage (approx. 7.5V) at TP902.

### B-Y (T1901), R-Y (T1902) DISCRIMINATOR ADJUSTMENT

Note: Connect a 0.001μF capacitor to TP801 and TP802 respectively to filter out interference noise.

1. Receive "SECAM COLOUR BAR" signal.
2. Connect the oscilloscope (with two channels) to TP801 (R-Y) and the TP802 (B-Y), both located on the CRT Socket Unit (PWB-B) of the set.
   - Range: DC 2V/div.
   - Sweep Time: 10 μsec/div.
3. Set service switch S401 at the Video Cut position to cut-off the Y-signal.
4. Set both the Contrast and Brightness controls to their maximum positions.
5. Adjust T1901 and T1902 so that the DC output levels obtained when the colour control is set to minimum (black and white level) and those when set to 100% colour saturation become the same.
6. Set service switch S401 to the center position.



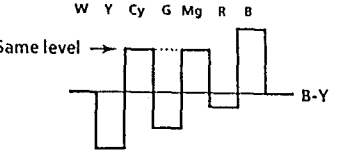






## CHROMA CIRCUIT ADJUSTMENT "NTSC"

### SUB-HUE: R1805

1. Receive "NTSC COLOUR BAR" signal.
2. Connect oscilloscope to TP802 (B-Y).
3. Turn on the video "N" key of the remote controller.
4. Set service switch S401 to the Video Cut position to cut-off the Y-signal.
5. Operating the Colour control key on the remote controller, adjust the B-Y waveform to approx. 3Vp-p.
6. Adjust Sub-Hue control R1805 so that the waveform is obtained.
7. Set service switch S401 to the center position.



## PROTECTOR PERFORMANCE CHECK

### BEAM PROTECTOR

1. Receive "MONO SCOPE PATTERN" signal.
2. Adjust the Contrast control to maximum.
3. Adjust the Brightness control to maximum.
4. Make the collector and emitter of Q2801 short-circuited.
5. Confirm that the protector is activated and selects the stand-by mode.

### HIGH VOLTAGE PROTECTOR

1. Receive "MONO SCOPE PATTERN" signal.
2. Connect the bias box across R685.
3. Check the functioning of the H.V. protector with different voltages applied through the bias box as follows:
   - It should not operate at 20V.
   - It should operate at 24V.

## PICTURE CONTROL KEY PERFORMANCE CHECK

### CONTRAST KEY

1. Receive "MONO SCOPE PATTERN" signal.
2. Using the picture select switch, call the contrast mode.
3. Confirm that the screen contrast changes when the Up/Down key is pressed.

### SURROUND

1. Set the Surround switch in the front-door to S-WIDE.
2. Push the Surround switch of Remote Controller and make sure that the surround LED is light-up.

### COLOUR KEY

1. Receive "NTSC COLOUR BAR" signal.
2. Using the picture select switch, call the colour mode.
3. Confirm that the colour changes when the Up/Down key is pressed. (The picture should be completely discoloured when the colour level is set to minimum.)

### CHANNEL SIGN DISPLAY COLOUR

Make sure all the channel signs (Channels 1 thru 39) are displayed in green.

### BRIGHTNESS KEY

1. Receive "MONO SCOPE PATTERN" signal.
2. Using the picture select switch, call the brightness mode.
3. Use the Up/Down key to make sure the black level changes.

### BLUE BACK SWITCH

Turn on the blue back switch. With no signal input, make sure the screen background turns blue. Turn it off to see if the blue back effect is cut-off.

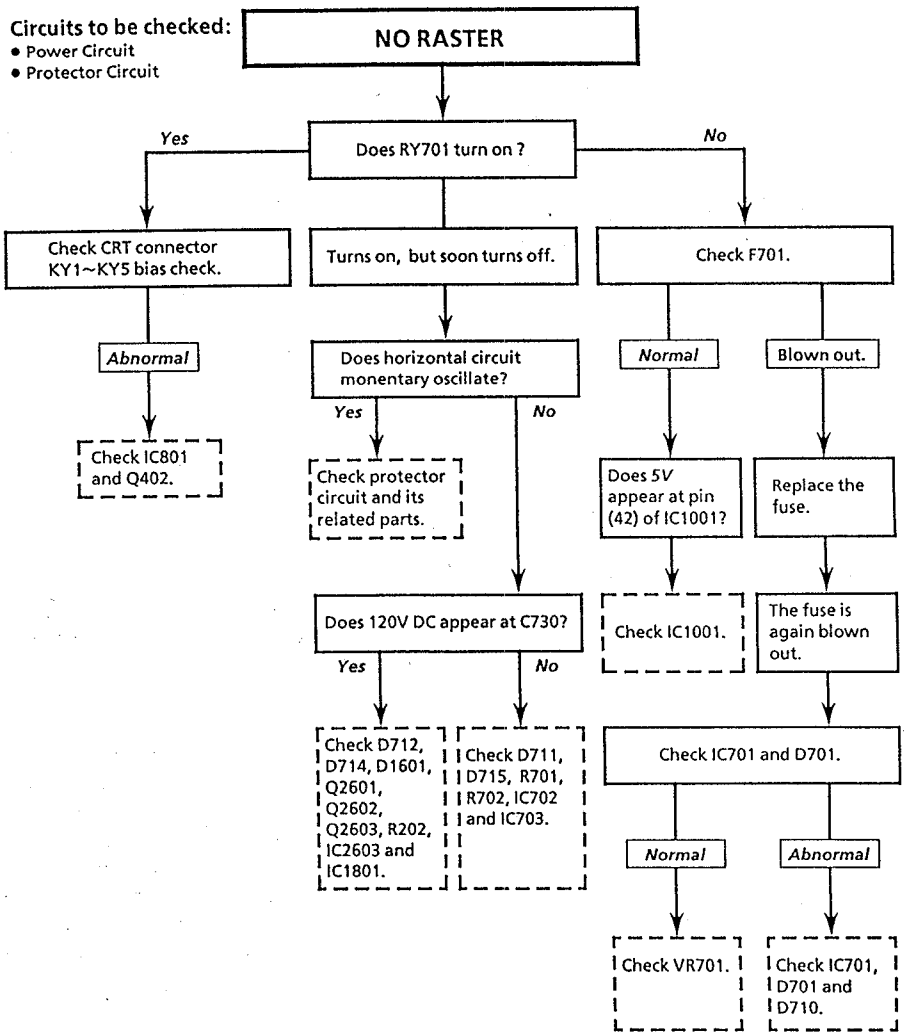
### TINT KEY

1. Receive "NTSC COLOUR BAR" signal.
2. Using the picture select switch, call the tint mode.
3. Use the Up/Down key to make sure the tint on the screen changes: yellowish at Up(+) and reddish at Down(−).



## TROUBLE SHOOTING TABLE

Circuits to be checked:
- Power Circuit
- Protector Circuit



## TROUBLE SHOOTING TABLE (Continued)

CIRCUITS TO BE CHECKED:
- Tuner
- PIF
- Automatic Gain Control
- + $B_2$ power source

**NO PICTURE, NO SOUND**

Does the noise level increase at max. Contrast, Brightness and Sound controls ?

**Noise increases but no signal is received.**

Check the Tuner $B_L$, $B_H$, $B_U$ and + $B_2$ biases.
+ $B_2$ must be approx. *12V*.
$B_L$ must be approx. *12V* with the band switch at $V_L$ position.
$B_H$ must be approx. *12V* with the band switch at $V_H$ position.
$B_U$ must be approx. *12V* with the band switch at U position.

*Normal* → Check the Tuner AGC.
- *Normal* → Check the Tuner circuit.
- *Abnormal* → Check IF unit (PWM-A).

*Abnormal* → Check IC201.

**Picture noise decreases but sound level varies greatly.**

Does the *12V* + B appear at pin (4) of IF unit (PWM-A).
- *Normal* → Check IF unit (PWM-A).
- *Abnormal* → Check D302, R311, L303 and R312.



## TROUBLE SHOOTING TABLE (Continued)

Circuits to be checked:
- IC501 and its adjacent circuit.

**NO VERTICAL SCAN**

Check the voltage at pin (8) of IC501.
- *Abnormal* → Check D2605 and R2616.
- *Normal* → Check vertical frequency at pin (31) of IC1801.
  - *Normal* → Check IC501, its bias control circuits and related circuits.
  - *Abnormal* → Check IC1801 and its peripheral parts.

CIRCUITS TO BE CHECKED:
- IC1801 and its adjacent circuit.
- R.G.B. output circuit.

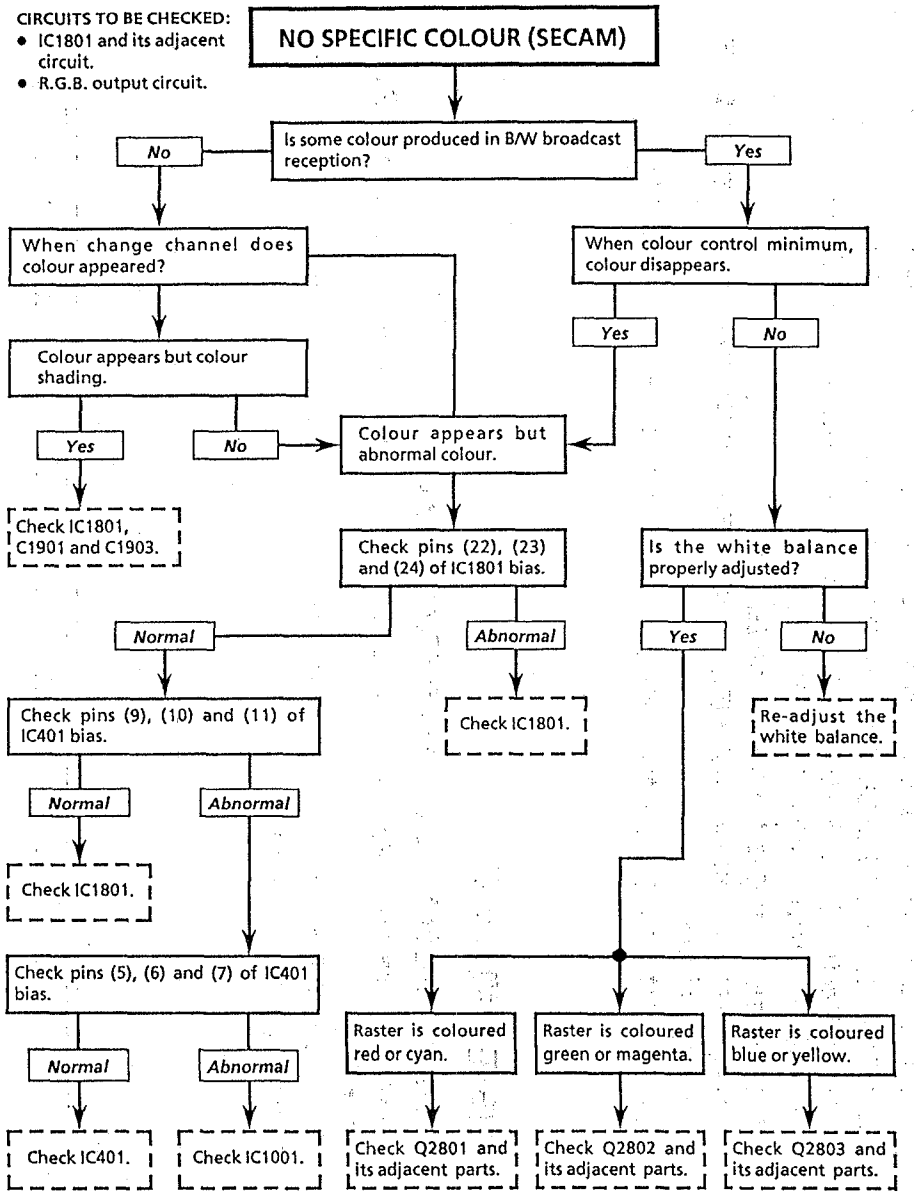
**NO SPECIFIC COLOUR (PAL)**

Specific colours are not produced in colour broadcast reception.

Is some colour produced in B/W broadcast reception?
- *No* → Check IC801 and IC1801 and X1801.
- *Yes* → Is the white balance properly adjusted?
  - *No* → Readjust the white balance.
  - *Yes* →
    - The picture colour is red or cyan. → Check Q2801 and its adjacent circuits.
    - The picture colour is green or magenta. → Check Q2802 and its adjacent circuits.
    - The picture colour is blue or yellow. → Check Q2803 and its adjacent circuits.

## TROUBLE SHOOTING TABLE (Continued)

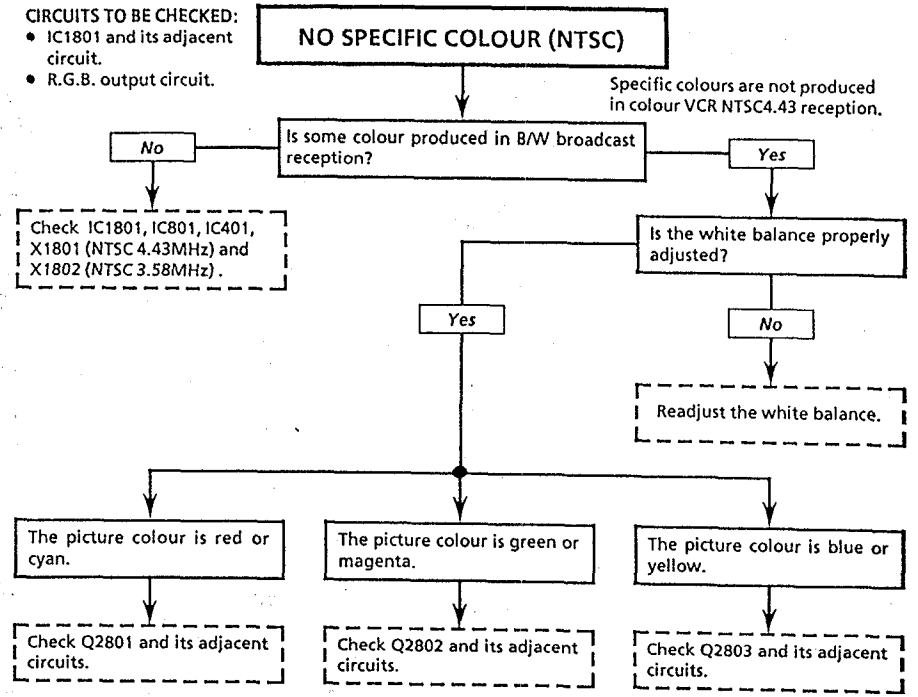
CIRCUITS TO BE CHECKED:
- IC1801 and its adjacent circuit.
- R.G.B. output circuit.






## TROUBLE SHOOTING TABLE (Continued)

CIRCUITS TO BE CHECKED:
- IC1801 and its adjacent circuit.
- R.G.B. output circuit.


NO SPECIFIC COLOUR (NTSC)
Specific colours are not produced in colour VCR NTSC4.43 reception.
Is some colour produced in B/W broadcast reception?
No
Yes
Check IC1801, IC801, IC401, X1801 (NTSC 4.43MHz) and X1802 (NTSC 3.58MHz).
Is the white balance properly adjusted?
Yes
No
Readjust the white balance.
The picture colour is red or cyan.
The picture colour is green or magenta.
The picture colour is blue or yellow.
Check Q2801 and its adjacent circuits.
Check Q2802 and its adjacent circuits.
Check Q2803 and its adjacent circuits.

# 维修注意要点

本电视机应只能由够格的维修人员来维护和修理。

## 高电压系统和显象管的维修

当维修高电压系统时，在显象管金属部分和第2阳极引线之间，用一绝缘(象测试探针等)和一10千欧姆的电阻串联连接，从而除去高电压系统的静电。(交流电源插头应和交流电源断开。)

1.本电视机的显象管使用整体内爆保护。
2.为安全的连续性起见，更换时必须使用相同型号的显象管。
3.不要抓住显象管的颈部来将其提起。
4.只有在防震屏面磨损时，和高电压系统彻底放电之后，才能来操作显象管。

## X一射线

本电视机被设计成一些X一射线保持在绝对最小。但是由于故障或在修理时，有可能产生在靠近区域长期暴露于辐射之下的危险，因此，必须遵循下列预防措施。

1.当修理电路时，一定不要使电视机的高电压超过32.0kV(25AN1/29AN1)。(电流为0$\mu$A)
2.要使电视机操作正常，必须使电视机在高电压为28.7kV±1.5kV(25AN1)(电流为1.4mA)/29.6kV±1.5kV(29AN1)(电流为1.5mA)的情况下工作。
本电视机在出厂之前已被调整为上述的高电压。
在进行修理之后，可能会产生高电压波动的结果。因此在修理结束时，千万不要忘记检查一下高电压是否波动。
3.不要使用没经许可类型和商标的显象管来代替，这样会产生超过标准的X一射线辐射。

## 在归还电视机之前

在将电视机归还给用户之前，请进行下列的安全检查。

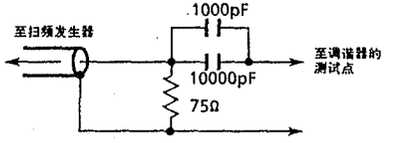
1.检查机底板和电视机其它金属部件之间的全部导线的包皮，确认导线没有折叠、没有和其它金属部件短接。
2.检查所有防护装置，象非金属的控制旋钮、绝缘青壳纸、机壳后盖、调整器和门盖或防护屏、隔离电阻一电容网、机械隔离器等。

## 调谐器IF(中频)线圈

**该调谐器出厂前已作预调(无重新调试之必要)。**

1.保持电视机于无信号接收状态。设$V_T$电压于$V_H$频带的11V。

2.用75Ω直流截断探针电路，将扫频发生器输出端连接于调谐器的测试点。




75Ω直流截断探针电路连接图

**注意：扫频发生器的接地线必须接地于测试点附近。**

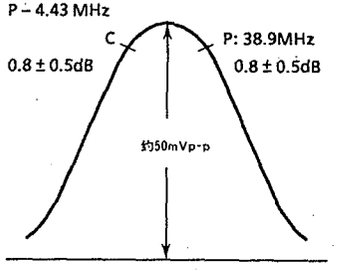
3.扫频输出电平：80dB。

4.连接响应引线(示波器的低抗阻探针)于调谐器的IF(中频装置)输出端。

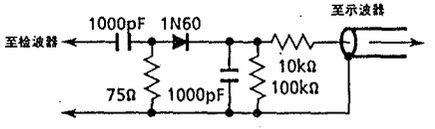
5.RF AGC(射频自动增益控制)：0V

6.调节调谐器中频线圈，以获得下图所示的输出波形。

**注意：调节调谐器中频线圈时，应保持其于盖壳盖罩状态下进行。**




将"P"及"C"两点调至相同的电平程度




低抗阻探针(带检波器)电路连接图

## VCO自激频率的调试：T2003

1.保持电视机于无信号接收状态。

2.短接TP2002与接地。用万能表测量TP2001的电压，记录其读数。

**注意：万能表电压值测定范围应定于mV量级。**

3.连接扫频发生器输出端于调谐器中频装置输出端。

- 频率：38.9MHz(载波)±5kHz
- 扫频输出电平：80～98dBμV

**注意：该项调试进行之前，应先激励IC2001两分钟以上。**

4.拆去TP2002和接地间的短接线。调节T2003，使万能表所测电压值达至与步骤2所记录的读数相同的读数。

- 精度：步骤2读数±10mV
  (3.2kHz/mV)

此时，观察示波器屏幕上显示的TP201的输出波形(检波输出)，确认其输出约为DC 3V。

- 范围：DC 1V/段

**注意：调试时，检查示波器屏幕显示的输出波形有无噪声和拍频现象。任何噪声和拍频现象均意为调试的不合格。**





## RF AGC(射频自动增益控制)接通控制：R219

1.设电视机于甚高频VHF高域频带(E10以上的频道)，接收PAL制式彩条信号。

- 场强度：57dB±1dBμV(端接75Ω电阻)

**注意：**设使用50/75抗阻换能器时，调50Ω场强计读数于55～56dB为宜，使用50/75抗阻换能器时，应考虑因抗阻的损失。

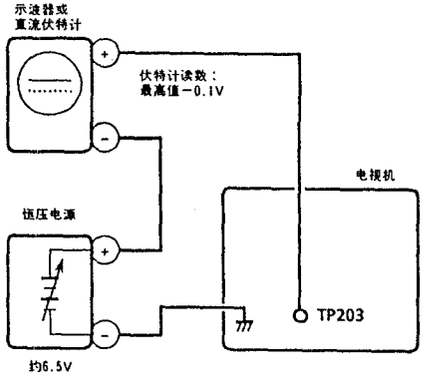
2.连接示波器或直流伏特计于TP203。

3.旋转R219，使伏特计读数达至最高。

4.反方向缓慢旋转R219，让伏特计读数为最高值－0.1V。

5.将信号电平调至63～67dBμV，并确认其信号输出不带噪声。

6.然后将信号电平调至90～95dBμV，并确认其信号输出波形不带交叉调制拍频。




## AFT(自动微调)线圈：T2002

1.设电视机于甚高频VHF高域频带(E10以上的频道)，接收PAL制式彩条信号。

- 信号强度范围：55～80dB

2.连接示波器于TP201。

- 电压范围：0.5V/段
- 扫频时间：20微秒/段
- 同步动作：水平同步

3.将SSG(标准信号发生器)输出端并联一只1pF电容连接于中频装置的输出端。

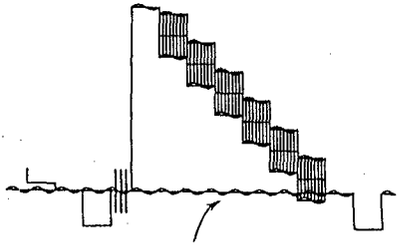
- SSG输出频率：38.9MHz(载波)
  38.9MHz±5kHz
- SSG输出电平：约50dB

4.置预调选择开关于"VHF-H"(甚高频高域频带)之调谐位置，调节"FINE"(微调)键钮(正向微调和反向微调)，使示波器显示的输出波形表面达至无拍频现象之程度。

5.置预调选择开关于"NORMAL"(标准状态)之位置。

6.调节T2002，使示波器显示的输出波形表面达至无拍频现象之程度。

- 调节误差：38.900MHz±25kHz



通过微调消除输出波形的拍频现象

## 声音的调试

### 射频副声音的调试：R234

1.接收SECAM制式彩条信号。
- ●声音调制：400Hz，60%

2.接示波器于TP1301。
3.调节R234，使400Hz正弦波波形达至0.6Vp-p。
- ●调节误差：0.6±0.04Vp-p

### 副声音的调节：R333

1.接收"PAL制式彩条"信号。
- ●音频信号：400Hz，100%调制

2.将VTVM与TP1301连接。
3.确认"SURROUND"(环场音响)的设定于OFF状态。
4.触按音量调节键钮，调音量输出于最大。
5.调节R333，使TP1301的VTVM的读数为6.9Vrms。

### 静噪的检查

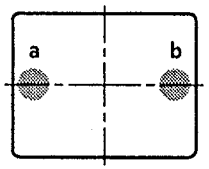
1.接收PAL制式彩条信号。如无彩条信号，可让电视机接收电视台节目代替之。
2.从最小至最大调节音量，检查扬声器有无声音输出。然后，关断彩条信号的输出。
3.检查消音的设定是否于ON状态。



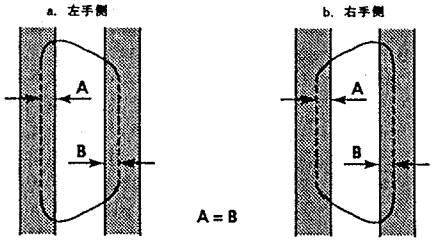
## 色彩纯度的调试

注意：作此项调试时，必须保持电视机面向东方。

### 色彩纯度的调试




图A




图B. 顺列"A"的显象管着屏

1.作此项调试前，先用1.1mA电子束电流为电视机预热30分钟以上。
2.接收单一的绿色信号。通过对比度调节，将电子束电流强度调至1.1mA。
3.通过去磁线圈，为CRT(阴极射线管)作完全去磁处理。
- ●垂直$B_V$：$+0.20\times10^{-4}$T(+0.20高斯)
- ●水平$B_H$：0T(0高斯)

4.设色彩纯度调节磁铁于磁场强度为0之位置。

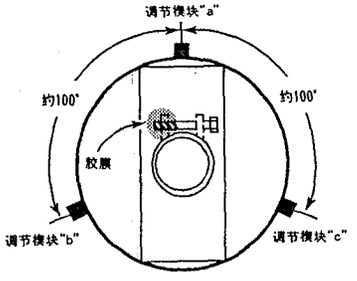
**调试：**

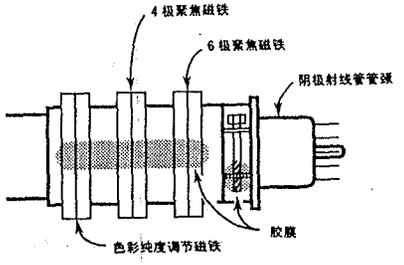
5.用放大镜于电视机屏幕上观察如图A所示的绿色点("a"点和"b"点)。调节色彩纯度调节磁铁，使其绿色点的显象管着屏位置(顺序"A")达规定要求。
6.将光栅转角调至为0。(保持电视机面向东方)
7.旋紧偏转线圈的螺丝。
旋转力矩：11kg±2kg
8.观察CRT(阴极射线管)角部，加磁铁片，使绿色点的显象管着屏位置为顺列"A"。

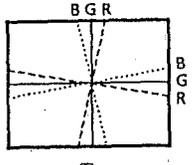
## 聚焦度的调试

注意：作此项调试时，必须保持电视机面向东方。

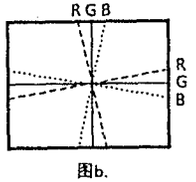
### 聚焦度的调试



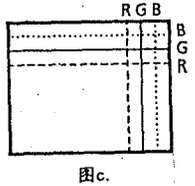



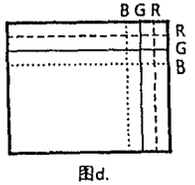

图a.




图b.




图c.




图d.

**此项调试必须于色彩纯度调试之后进行。**

1. 接收棋盘格测试图信号。
2. 设亮度调节和对比度调节于最大位置。

**静聚焦度的调试：**

3. 调节 4 极聚焦磁铁的张开程度以及其转角，以会聚红色线条和蓝色线条。
4. 调节 6 极聚焦磁铁的张开程度以及其转角，以会聚红色线条，蓝色线条和绿色线条。

**动聚焦度的调试：**

5. CRT屏幕边缘的动聚焦度(三彩色色场的会聚)的调试按下述要求进行。

**按图a. 要求的会聚调试：**

插入调节楔块"a"于偏转线圈和CRT之间，并向上倾斜调节偏转线圈，以按图a. 所示要求矫正不良会聚。

**按图b. 要求的会聚调试：**

插入调节楔块"b"和"c"于偏转线圈和CRT之间，并倾斜调节偏转线圈，以按图b. 所示要求矫正不良会聚。

**按图c. 要求的会聚调试：**

深插调节楔块"c"于偏转线圈和CRT之间，并向右倾斜调节偏转线圈，以按图c. 所示要求矫正不良会聚。

**按图d. 要求的会聚调试：**

深插调节楔块"b"于偏转线圈和CRT之间，并向左倾斜调节偏转线圈，以按图d. 所示要求矫正不良会聚。

6. 完成以上调试后，用透明胶带粘固三只调节楔块于CRT。
7. 然后用胶膜封固偏转线圈调节螺丝，调节磁铁装置(由纯度调节磁铁、4 极聚焦磁铁和 6 极聚焦磁铁构成)以及调节磁铁装置固定螺丝。

该项调试完成后，让电视机接收红色或蓝色信号，并检查接收的单色信号是否掺杂有其他色彩信号。



## 水平同步和垂直同步电路的调试

### 垂直线性度的调试：R514

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。
3. 粗调垂直尺寸调节R510，以获得 8 %的过扫描。
4. 调节R514，以获得最佳垂直线性度。
   最佳垂直线性度获得由上下两半圆形图案的对称面判定。

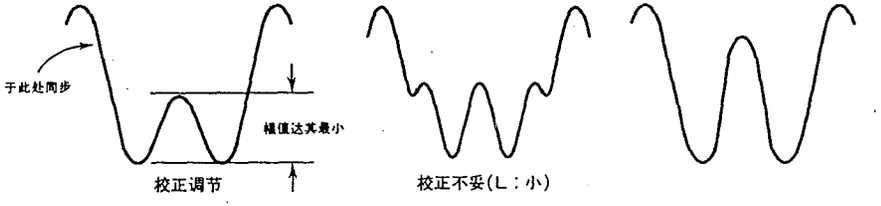
### 垂直中心和垂直尺寸的调试

- S501：垂直中心
- R510：垂直尺寸

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。
3. 旋转垂直中心调节S501，使屏幕的画面中心与CRT的几何中心对齐。S501是分档旋转式开关。左右旋转之，寻找其最佳位置。
4. 旋转垂直尺寸调节R510，以获得 8 %的过扫描。

### 动态"S"曲线校正：L606 (29AN1型)

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准画面)键钮。
3. 将示波器探针与L603连接。(其接地引线应接于C2607)。
4. 调节动态"S"曲线校正线圈L606，使校正信号波形同步，并使其幅值达至最小。




### 水平两侧枕形畸变(29AN1型)，水平中心和水平尺寸的调试

- R644：水平两侧枕形畸变 (29AN1型)
- R602：水平中心
- R632 (29AN1)：水平尺寸
- L606 (25AN1)：水平尺寸

1. 接收单象管图案信号。粗调水平尺寸调节，以获得 8 %的过扫描。(29AN1型)
2. 接收棋盘格测试图信号。
3. 触按遥控器上"N"(标准图象)键钮。
4. 旋转水平两侧枕形畸变调节R644 寻找其最佳调节位置：屏幕棋盘格左右两侧边缘的线条拉直。(29AN1型)
5. 接收单象管图案信号。
6. 旋转水平中心调节R602，使屏幕的画面中心和CRT的几何中心对齐。
7. 旋转水平尺寸调节L606 (25AN1)/R632 (29AN1)，以获得 8 %的过扫描。
8. 接收棋盘格测试图信号。
9. 重新精调R644，最终设定水平两侧枕形畸变的最佳调节位置。(29AN1型)

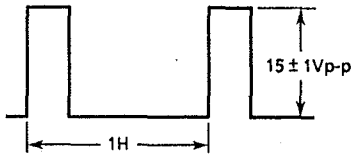
## 视频电路的调试

### CRT截止及副亮度的调试

- R403 ：副亮度控制
- R2816：红色偏转控制
- R2817：绿色偏转控制
- R2818：蓝色偏转控制
- 画面控制(T601的一部分)
- R2811：绿色激励控制
- R2812：蓝色激励控制

**注意：作此项调试前，先用1100μA的电子束电流为电视机预热30分钟以上。**

1. 接收单象管图案信号。
2. 设红色偏转控制于最小位置(0/10)。
   设绿色偏转控制于最小位置(0/10)。
   设蓝色偏转控制于最小位置(0/10)。
   设绿色激励控制于中央位置(5/10)。
   设蓝色激励控制于中央位置(5/10)。
3. 触按遥控器上的"N"(标准图象)键钮。
4. 设对比度控制于最小位置。
5. 设画面控制于最小位置(0/10)。
6. 将示波器与TP2801(红色阴极)连接。
7. 旋转维修开关S401于水平线位置。
8. 调节副亮度控制R403，以获得TP2801处幅值为15±1Vp-p的隐消脉冲波。




9. 拆去示波器和TP2801的连接。
10. 顺时针方向缓慢地旋转画面控制旋钮，使屏幕上微弱地出现红、绿、蓝三色之一的单色水平光栅为止。
11. 精细调节其它二色的偏转控制，使屏幕上的水平光栅变成白色。
12. 反时针方向旋转画面控制旋钮，直至屏幕上的水平光栅完全消失。

### 白色平衡及底色的调试

- R2811：绿色激励控制
- R2812：蓝色激励控制
- R416 ：副对比度控制

**注意：作此项调试前，先用1100μA的电子束电流为电视机预热30分钟以上。**

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。这样，电视机的对比度设定为最大(10/10)，亮度设定为中央(5/10)。
3. 连接电子束安培计(测示范围：3mA)于TP601(－)和TP602(＋)。
4. 调节副对比度控制，以获得约1.4mA(25AN1)或1.5mA(29AN1)的电子束电流(粗调)。
5. 调节绿色激励和蓝色激励控制，以获得9300°K的色温(白色)。
6. 调节对比度控制和亮度控制，使电子束电流强度降至200μA左右。检查屏幕底色，如果其色温不达指定的9300°K，则须从步骤5重新调节之。

### 副对比度控制的调试：R416

**注意：作此项调试前，先用1100μA的电子束电流为电视机预热30分钟以上。**

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。这样，电视机的对比度设定为最大(10/10)，亮度设定为中央(5/10)。
3. 连接电子束安培计(测示范围：3mA)于TP601(－)和TP602(＋)。
4. 调节副对比度控制，以获得1.4mA(25AN1)或1.5mA(29AN1)的电子束电流。

**注意：对比度控制和亮度控制均设定于最大位置时，电子束安培计所测电子束电流强度应为1.45mA(25AN1)或1.55mA(29AN1)左右。**



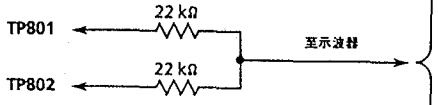
## PAL制式色度信号电路的调试

### PAL制式色度的调试

- R1810：1H延迟放大控制
- T1801：1H延迟相位控制

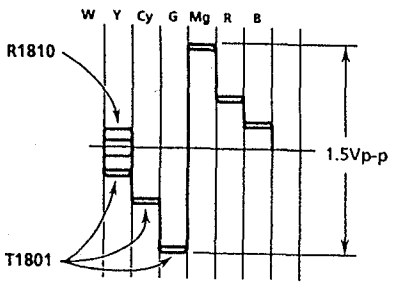
**注意：此项调试必须于PIF/AFT/AGC的调试的完成后进行。**

1. 接收PAL制式彩条信号。
2. 通过一个电阻矩阵变换电路，将示波器连接TP801和TP802。

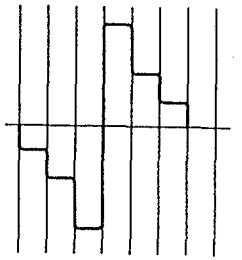



电阻矩阵变换电路

3. 设维修开关S401于视频信号截断位置，以截断亮度信号的输入。
4. 触按遥控器上的"N"(标准图象)键钮。
5. 调节遥控器上的彩色控制键钮，使色差信号的输出波形达到如图A所示的1.5Vp-p之要求。
6. 调节R1810和T1801，使图A所示的输出波形变为图B所示波形。
7. 将维修开关S401转回至其中心位置。



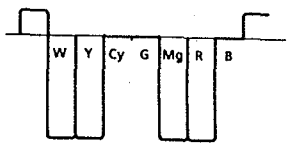

图A. 调试前的输出波形



图B. 调试后的输出波形

### PAL制式副彩色的调试：R1804

1. 接收PAL制式彩条信号。
2. 触按遥控器上的"N"(标准图象)键钮。
3. 将示波器与TP2801(红色阴极)连接。
   - 电压范围：20V/段
   - 扫频时间：20微秒/段
4. 调节R1804，使白色信号(75%)和红色信号达至如右图所示的同样电平值的要求。

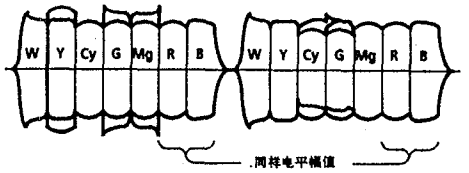


## SECAM制式色度信号电路的调试

### 贝尔滤波器的调试：T1903

1.接收SECAM制式彩条信号。
2.将示波器与T901连接。并按下述要求设定之。
- 电压范围：0.05V/段，交流
- 扫频时间：20微秒/段
- 探针：1/10（30pF，大于10MΩ）

3.调节贝尔滤波器(T1903)，使彩条信号中的红色和蓝色成分达至同样的电平幅值。




### SECAM制式抑制器的调试：T934

1.接收SECAM制式彩条信号。
2.将示波器与TP902连接。并按下述要求设定之。
- 电压范围：1V/段，直流
  （正确调节垂直位置）
- 扫频时间：20微秒/段

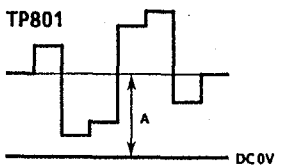
3.调节T1904，以于TP902处获得最大直流电压(约为7.5V)。

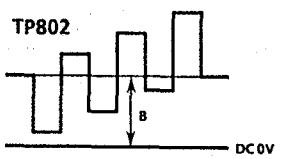
### B-Y(T1901)，R-Y(T1902)鉴频器的调试

**注意：调试时，分别于TP801和TP802串接0.001μF的电容器，以滤除噪声的干扰影响。**

1.接收SECAM制式彩条信号。
2.将示波器(用两个频道)与位于电视机CRT插座装置(印刷电路板-B)上的TP801(R-Y)和TP802(B-Y)连接。
- 电压范围：1V/段，直流
- 扫频时间：10微秒/段

3.设维修开关S401于视频信号截断位置，以截断亮度信号的输入。
4.设对比度控制及亮度控制于其最大位置。
5.调节T1901和T1902，使设彩色控制于最小位置(仅有黑白信号)时彩色饱和度达100%时的直流电平输出达至相同。
6.将维修开关S401转回至其中心位置。



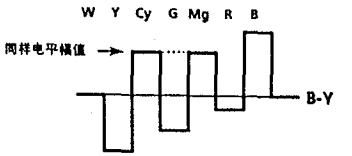






## NTSC制式色度信号电路的调试

### 副色调的调试：R1805

1.接收NTSC制式彩条信号。
2.将示波器与TP802(B-Y)连接。
3.触按遥控器上的"N"(标准图象)键钮。
4.设维修开关S401于视频信号截断位置，以截断亮度信号的输入。
5.调节遥控器上的彩色控制键，使B-Y输出波形达至3Vp-p左右。
6.调节副色调控制R1805，以获得符合要求的输出波形。
7.将维修开关S401转回至其中心位置。



## 保护电路性能的检查

### 电子束保护电路

1.接收单象管图案信号。
2.设对比度控制于最大位置。
3.设亮度控制于最大位置。
4.短接Q2801的集电极和发射极。
5.检查这时的保护电路是否被激励，并处于准备状态。

### 高压保护电路

1.接收单象管图案信号。
2.将偏压器并接于R685。
3.按下述要求，加电压于偏压器，检查高压保护电路的功能。
- 加压20 V时，高压保护电路不动作
- 加压24 V时，高压保护电路动作

## 诸图象、音响控制键钮功能的检查

### 对比度控制键钮

1.接收单象管图案信号。
2.设图象控制选择开关于对比度调节之位置。
3.触按上移(＋)/下移(－)键钮，检查画面对比度是否发生变化。

### 环场音响选择键钮

1.设电视机本机前面控制板上的环场音响开关于"S-WIDE"(广域环场音响)的位置。
2.触按遥控器上环场音响选择开关键钮，检查电视机上环场音响的光电指示器是否点亮。

### 彩色控制键钮

1.接收NTSC制式彩条信号。
2.设图象控制选择开关于彩色调节之位置。
3.触按上移(＋)/下移(－)键钮，检查画面的彩色是否发生变化。(彩色控制设其最小位置时，图象应完全变为黑白图象)。

### 频道表示色

检查所有接收频道(1～39)的在屏表示色是否均为绿色。

### 亮度控制键钮

1.接收单象管图案信号。
2.设图象控制选择开关于亮度调节之位置。
3.触按上移(＋)/下移(－)键钮，检查亮度黑电平是否发生变化。

### 蓝色背景选择开关

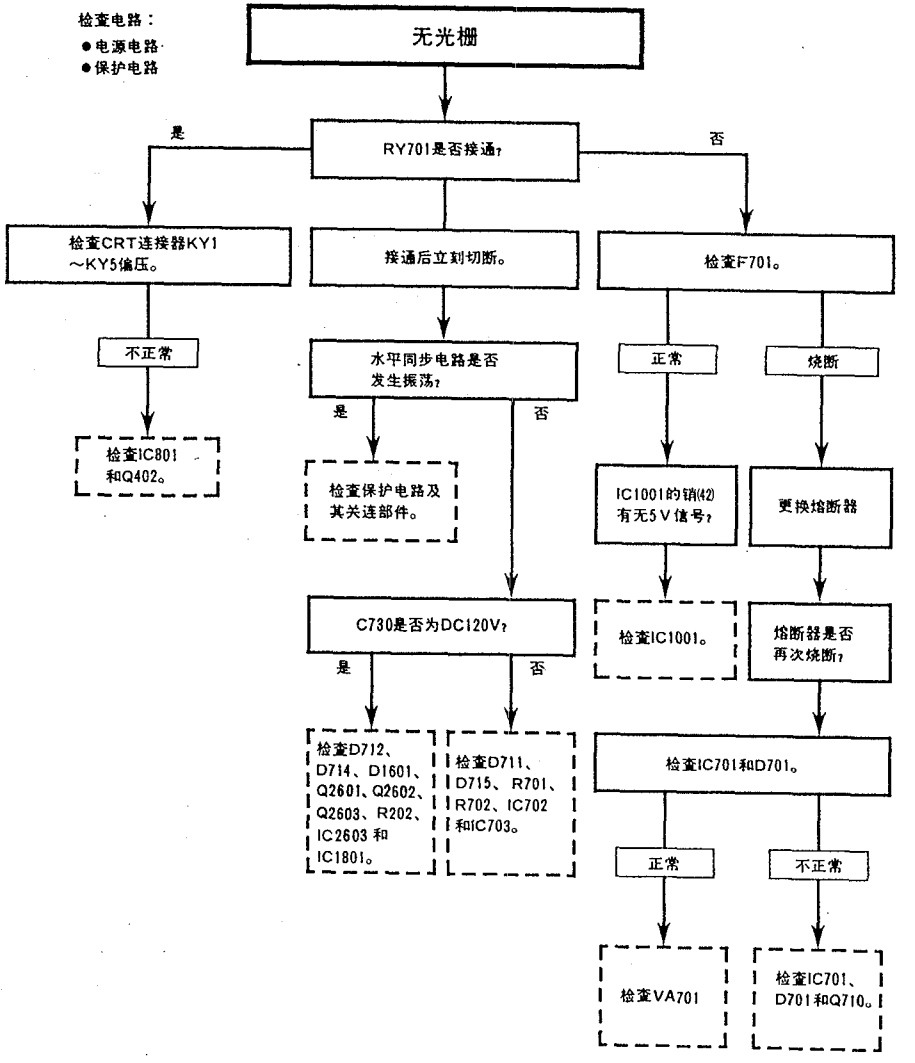
设蓝色背景选择开关于开启位置，调电视机于无信号输入的接收频道，检查电视机屏幕是否于数分钟后转为全蓝色表示。然后，设蓝色背景选择开关于关断位置，检查屏幕的全蓝色表示是否随之消失。

### 色调控制键钮

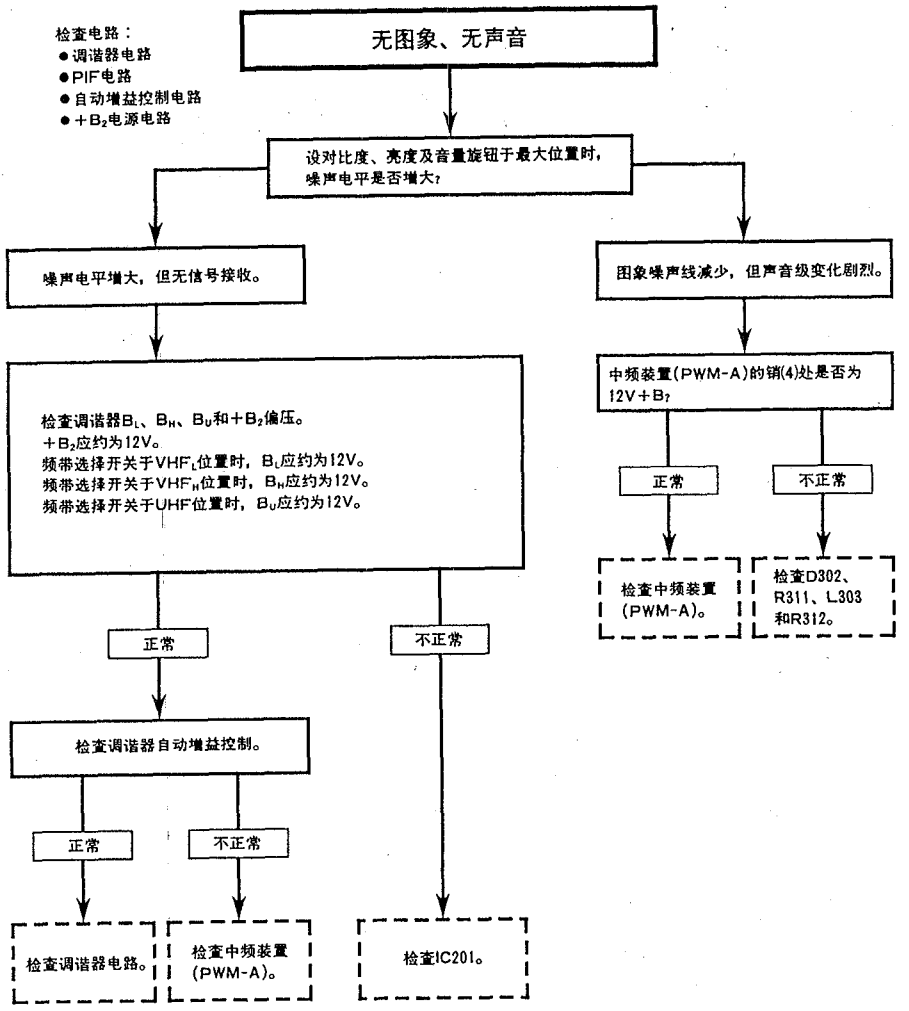
1.接收NTSC制式彩条信号。
2.设图象控制选择开关于色调调节之位置。
3.触按上移(＋)/下移(－)键钮，检查画面色调的变化：触按上移(＋)键钮时，画面色彩变黄；触按下移(－)键钮时，画面色彩变红。



## 故障检修流程图

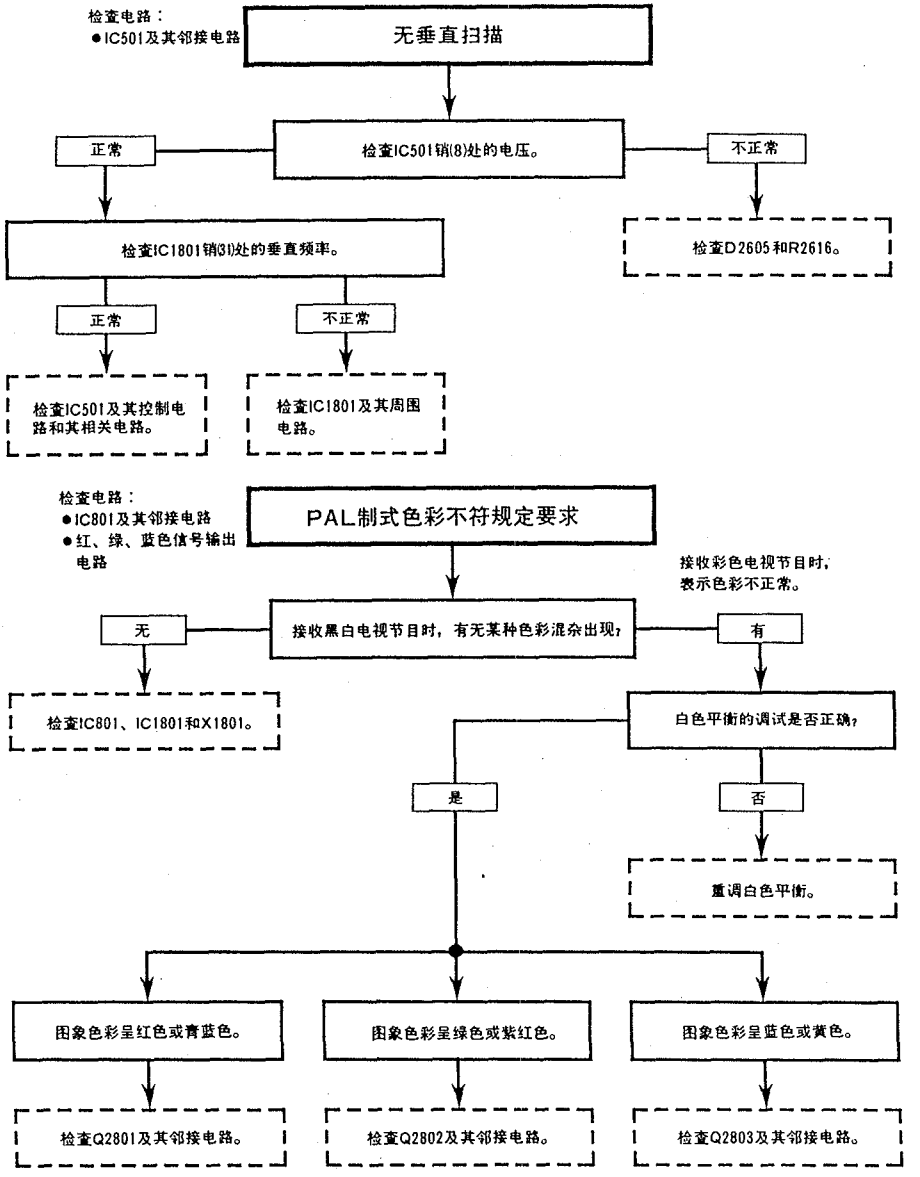


## 故障检修流程图(接上页)

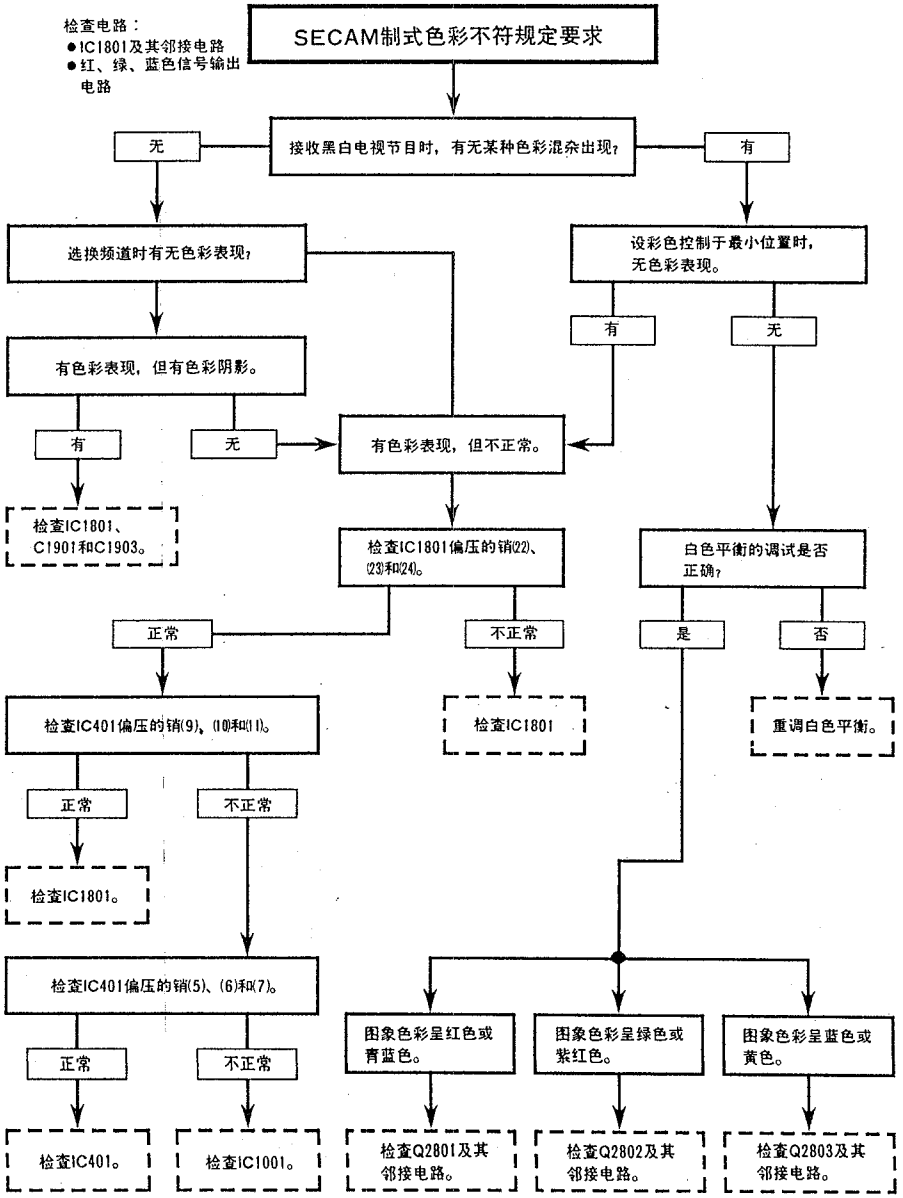





## 故障检修流程图(接上页)

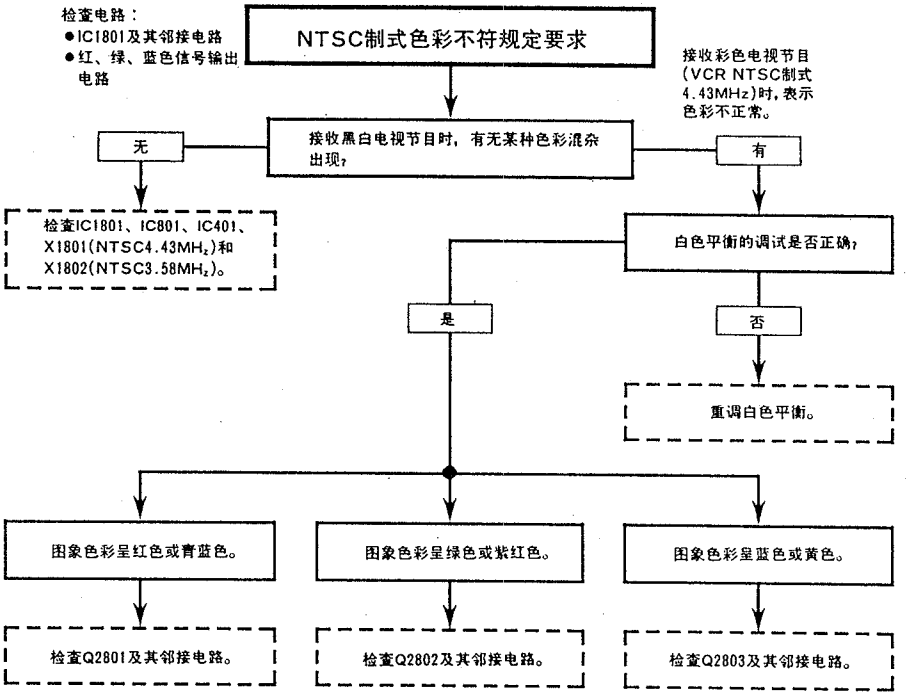


## 故障检修流程图(接上页)



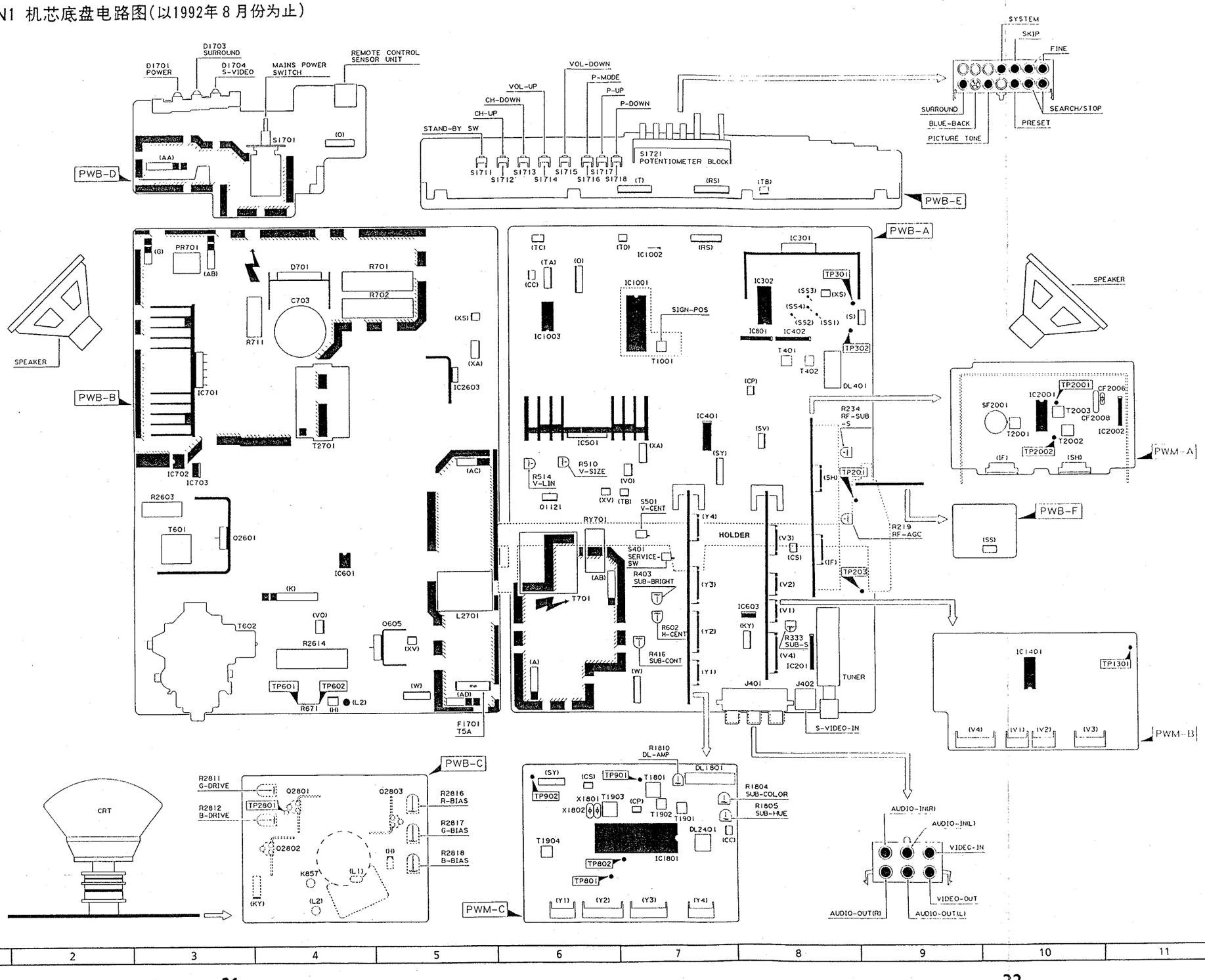



## 故障检修流程图(接上页)



# MODEL 25AN1 CHASSIS LAYOUT (Up to August 1992)

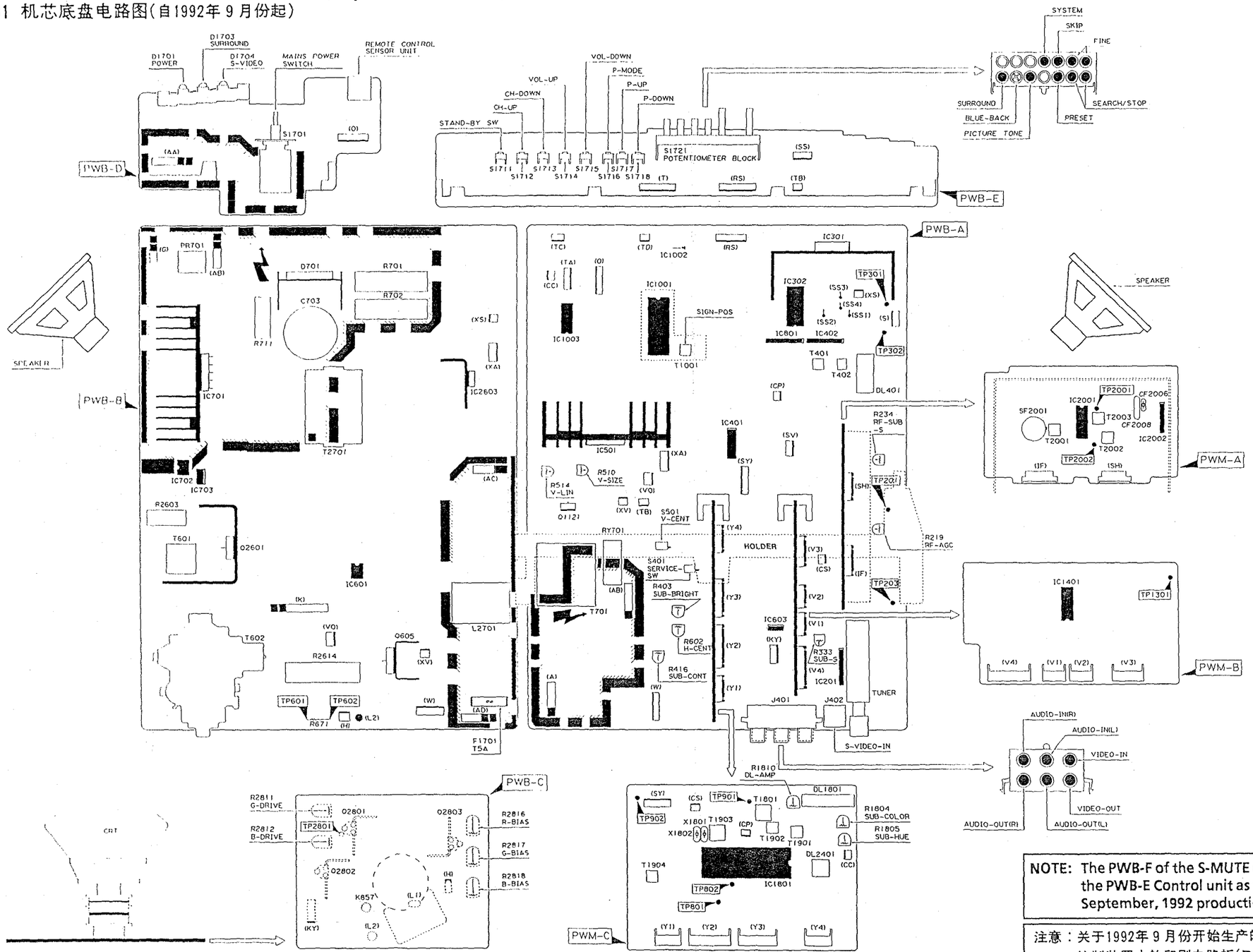
型号25AN1 机芯底盘电路图(以1992年8月份为止)



| 25AN1 | 25AN1 |
|---|---|
| 29AN1 | 29AN1 |

# MODEL 25AN1 CHASSIS LAYOUT (September 1992~)

型号25AN1 机芯底盘电路图(自1992年 9 月份起)

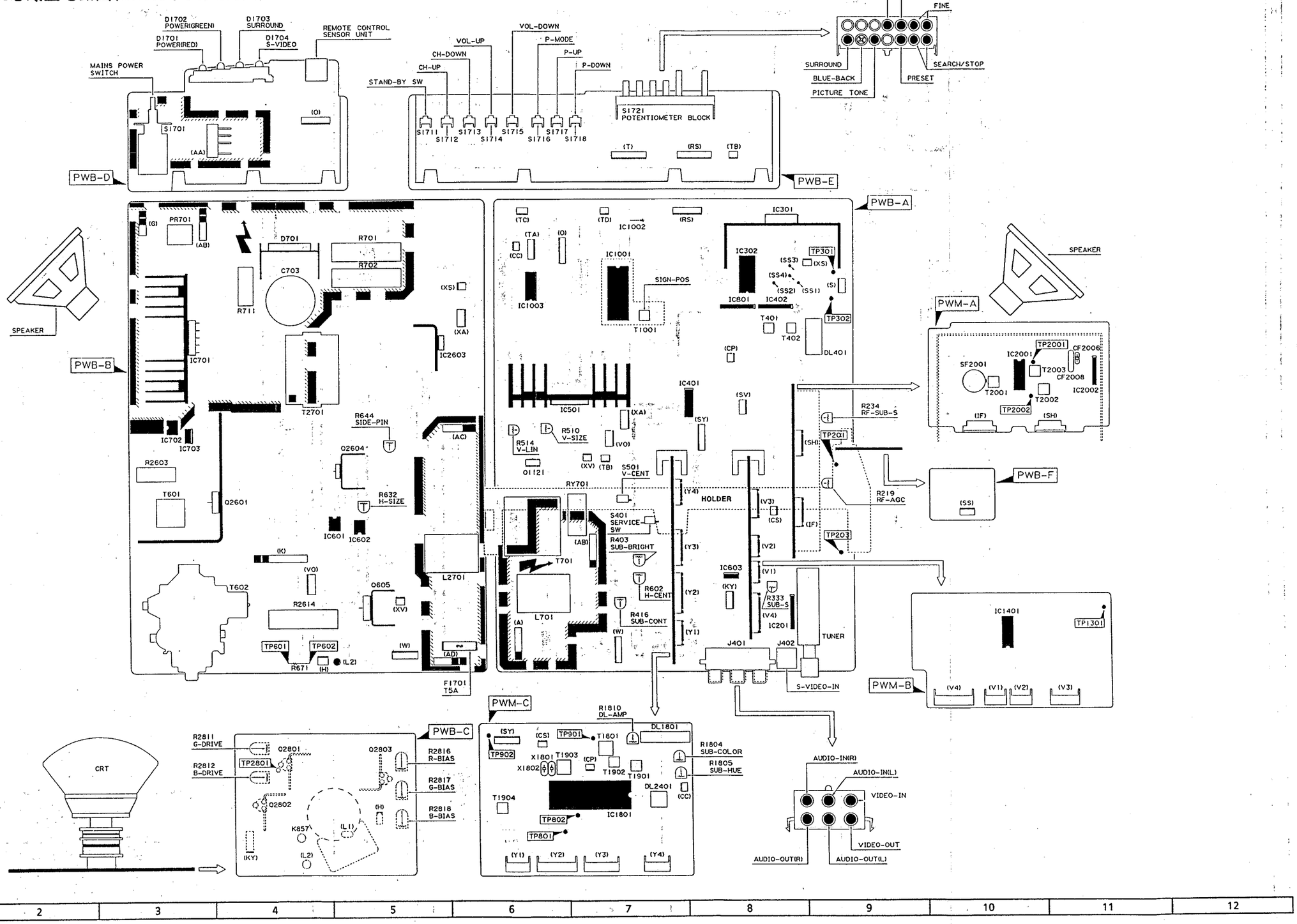



NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

# MODEL 29AN1 CHASSIS LAYOUT (Up to August 1992)

型号29AN1 机芯底盘电路图(以1992年8月份为止)

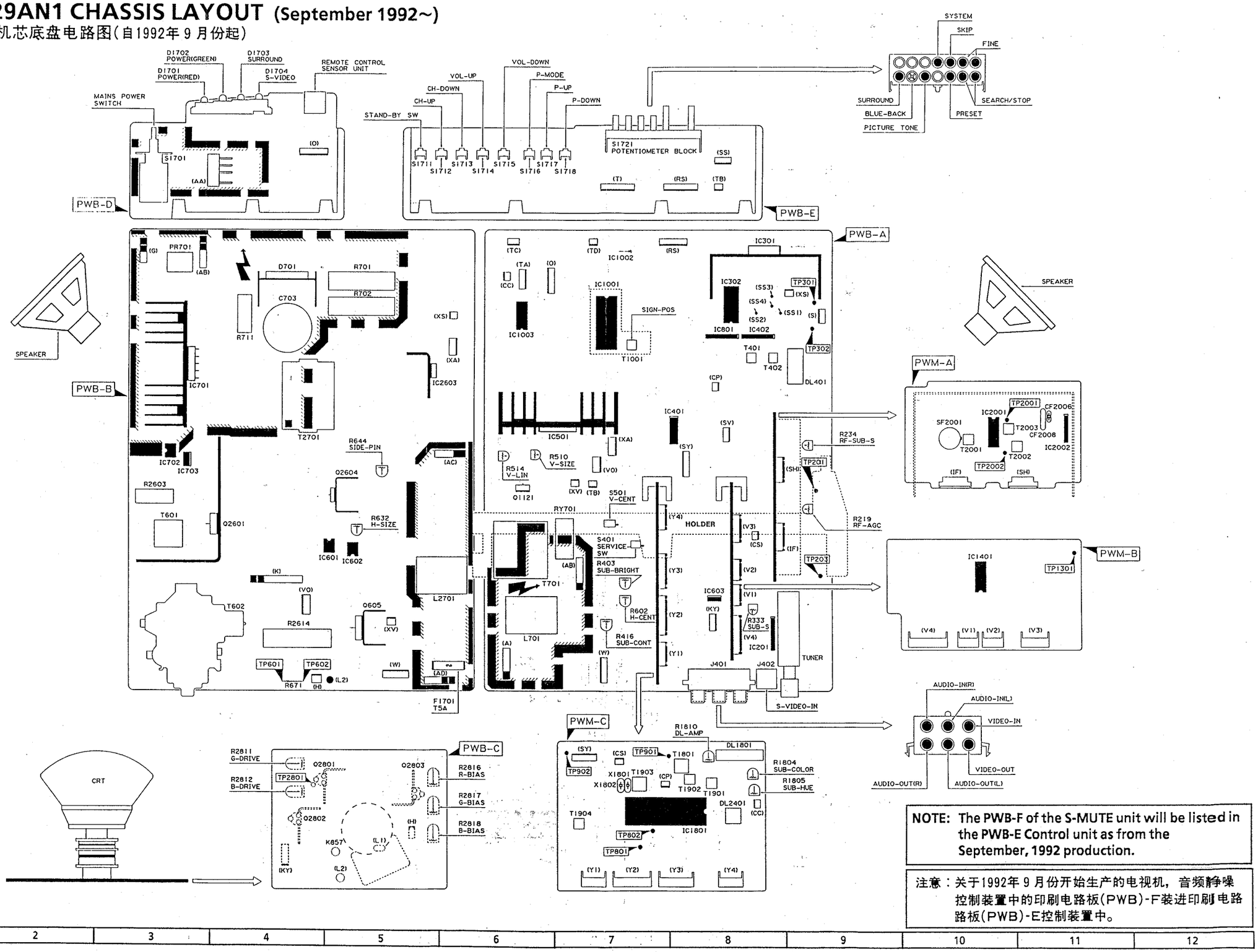



H G F E D C B A

1 2 3 4 5 6 7 8 9 10 11 12

# MODEL 29AN1 CHASSIS LAYOUT (September 1992~)

型号29AN1 机芯底盘电路图(自1992年9月份起)




**NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.**

注意：关于1992年9月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路路板(PWB)-E控制装置中。

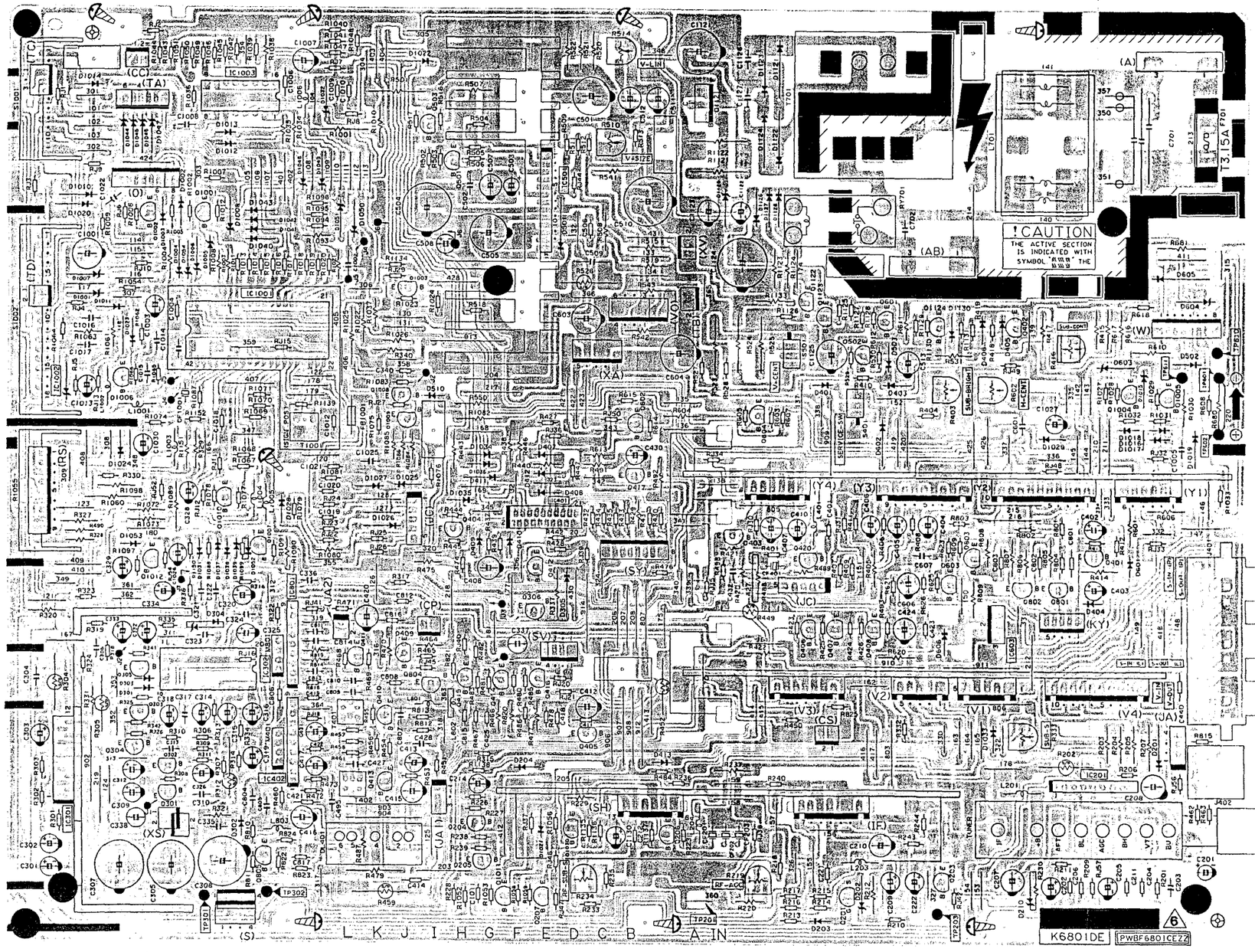
| 25AN1 | 25AN1 |
|---|---|
| 29AN1 | 29AN1 |

# PRINTED WIRING BOARD ASSEMBLIES

**(All the PWBs here are shown as viewed from their wiring sides)**

印刷电路板的组装件

（这里的所有印刷电路都是从导线接头端的角度显示出来。）



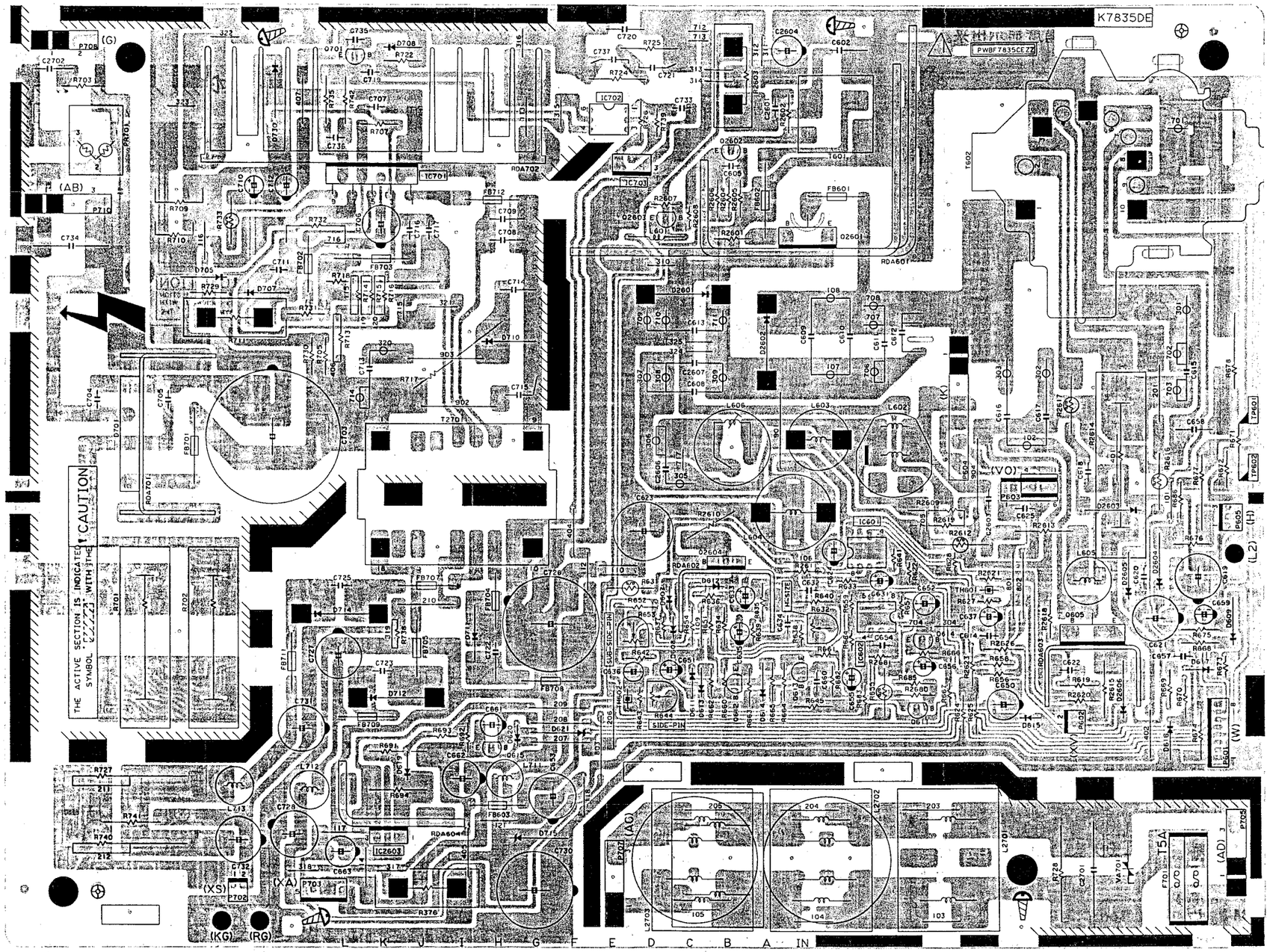

PWB-A

H G F E D C B A

1 2 3 4 5 6 7 8 9 10 11 12

25AN1
29AN1

25AN1
29AN1

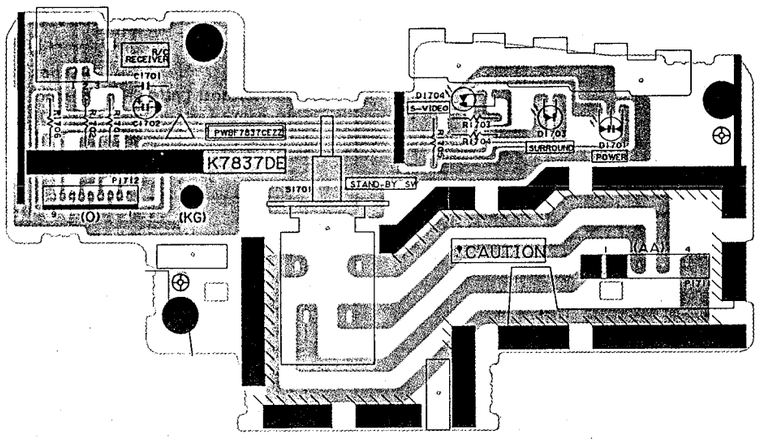



PWB-B

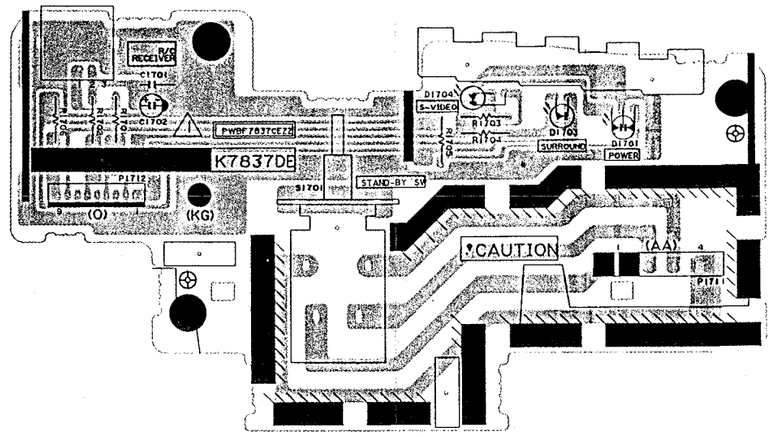
31

32

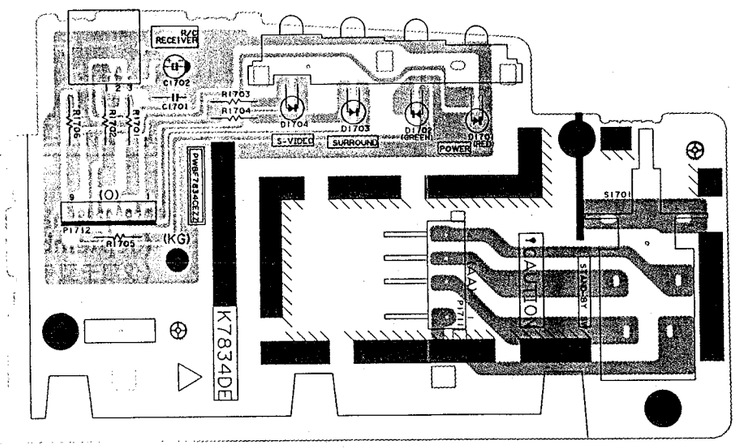
| 25AN1 | 25AN1 |
|---|---|
| 29AN1 | 29AN1 |



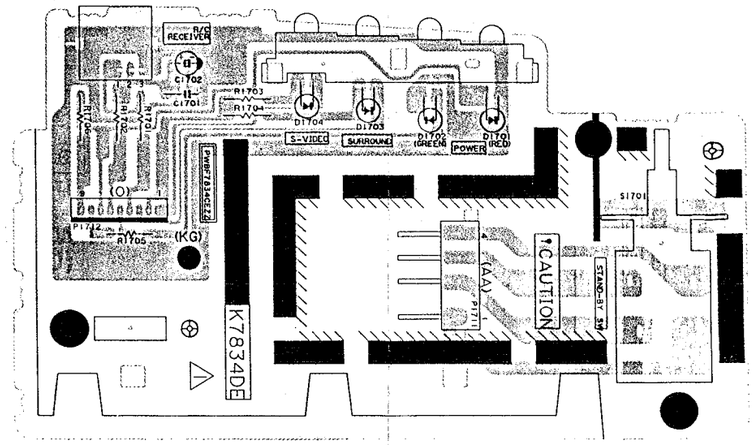

**PWB-D (only for 25AN1)**
**(Up to August 1992)**
（仅限于型号25AN1）
（以1992年 8 月份为止）




**PWB-D (only for 25AN1)**
**(September 1992~)**
（仅限于型号25AN1）
（自1992年 9 月份起）

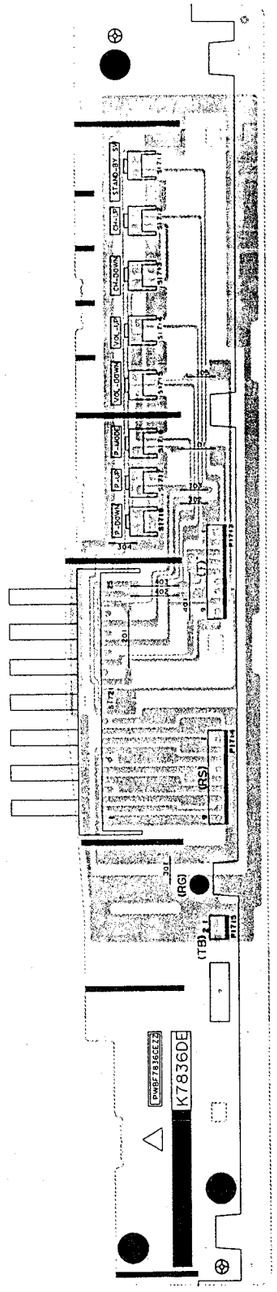



**PWB-D (only for 29AN1)**
**(Up to August 1992)**
（仅限于型号29AN1）
（以1992年 8 月份为止）

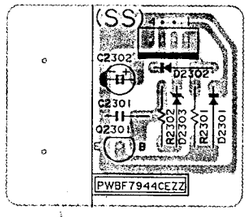



**PWB-D (only for 29AN1)**
**(September 1992~)**
（仅限于型号29AN1）
（自1992年 9 月份起）

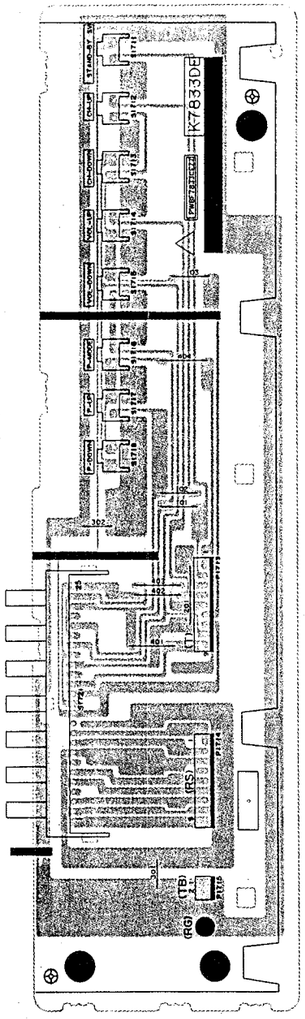
| 25AN1<br>29AN1 | 25AN1<br>29AN1 |
|---|---|



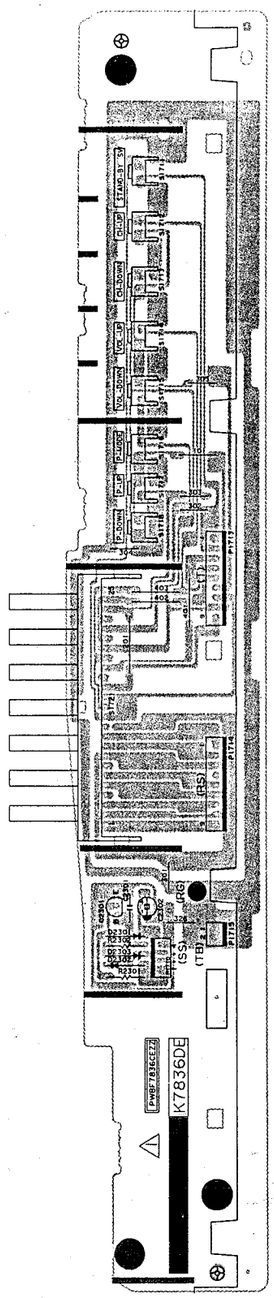

**PWB-E (only for 25AN1)**
**(Up to August 1992)**
（仅限于型号25AN1）
（以1992年 8 月份为止）



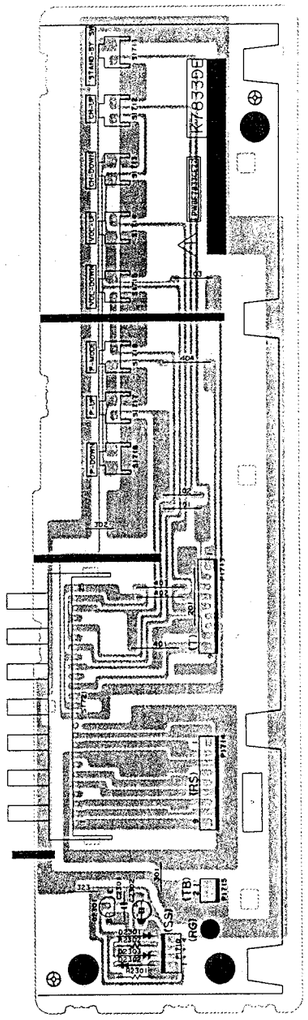

**PWB-F**
**(Up to August 1992)**
（以1992年 8 月份为止）




**PWB-E (only for 29AN1)**
**(Up to August 1992)**
（仅限于型号29AN1）
（以1992年 8 月份为止）



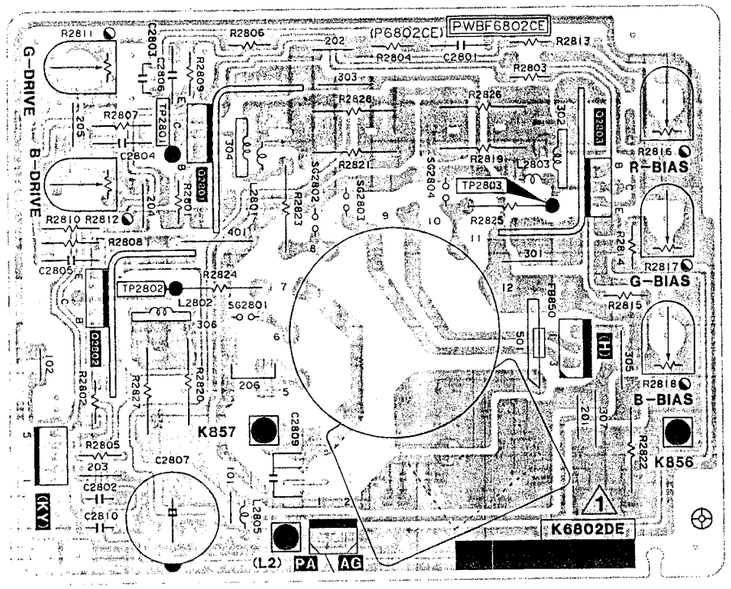

**PWB-E (only for 25AN1)**
**(September 1992~)**
（仅限于型号25AN1）
（自1992年 9 月份起）



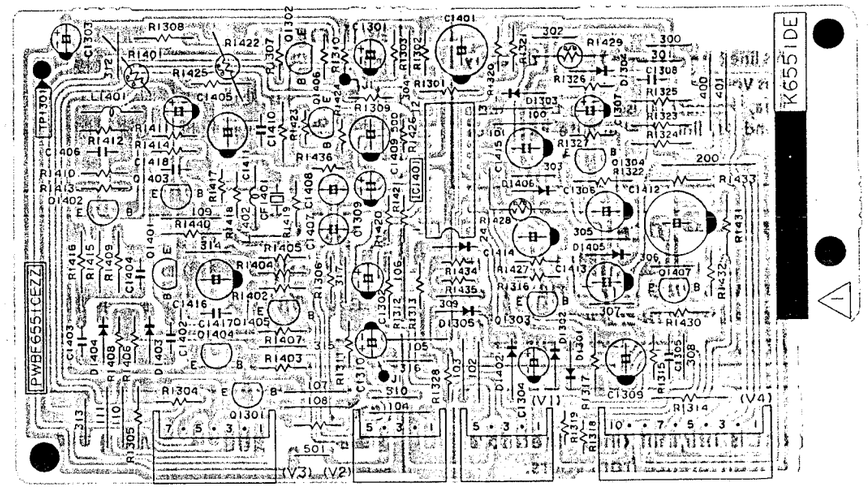

**PWB-E (only for 29AN1)**
**(September 1992~)**
（仅限于型号29AN1）
（自1992年 9 月份起）

| *NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.* |
|---|
| 注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。 |

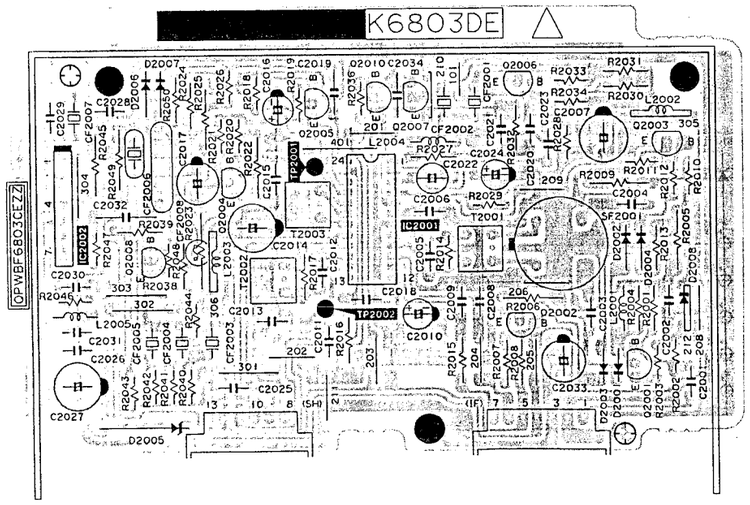
| 25AN1 | 25AN1 |
|---|---|
| 29AN1 | 29AN1 |



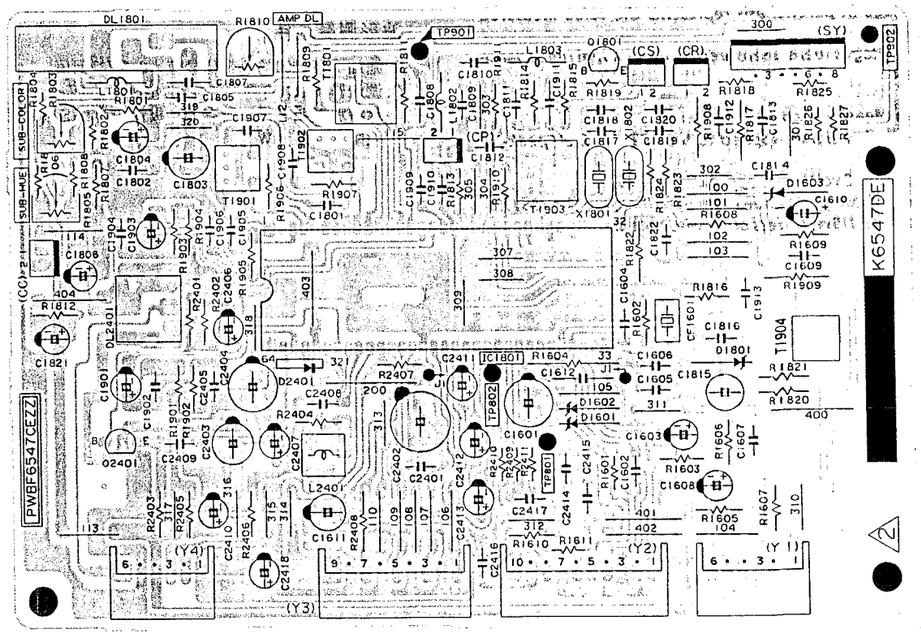

PWB-C




PWM-B




PWM-A




PWM-C

# DESCRIPTION OF SCHEMATIC DIAGRAM
## 电路原理图的说明

***SERVICE PRECAUTION:***

The area enclosed by this line ( ——— ) is directly connected with AC Mains Voltage.
When servicing the area, connect an isolating transformer between TV receiver and AC line to eliminate hazard of electric shock.

维修注意：

被( ——— )线围起的地方直接和交流电源电压相连接。当对该处进行维修时，为了排除遭受电击的危险性，要在电视接收机和交流电源之间连接隔离变压器。

***IMPORTANT SAFETY NOTICE:***

***PARTS MARKED WITH "⚠"( ▒▒▒ ) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFOMANCE OF THE SET.***

安全使用注意要点：

标有"⚠"( ▒▒▒ )的部件对于电视机安全的维护有至关重要的意义。为了维护本机的安全和使本机能正常工作，必须使用指定品来更换这些部件。

***CAUTION:***

This circuit diagram is original one, therefore there may be a slight difference from yours.

注意：

这里的电路原理图均为最初设计原图，与您的机器电器原理图可能有不同之处。

***NOTES:***

***Voltage MEasurement Conditions***

1. *The voltage without parenthesis represents the value measured with PAL colour signal.*
2. *The voltage in parenthesis represents the value measured with no signal.*
3. *All the voltages were measured by using a high impedance voltmeter.*

电压测量条件：

1. 无括弧的电压值是由PAL制式彩色信号测量的。
2. 在括弧内的电压值是由无信号测量的。
3. 所有各点的电压均是用高阻抗电压表来测量的。

***Waveform Measurement Conditions***

1. *The colour bar signal applied to the TP201 is 2.0V peak-to-peak.*
2. *The tuner AGC voltage is approximately 4V.*

*The diodes, whose parts code is not described, are the 1SS119.*
*All resistors are 1/8W, unless otherwise noted.*

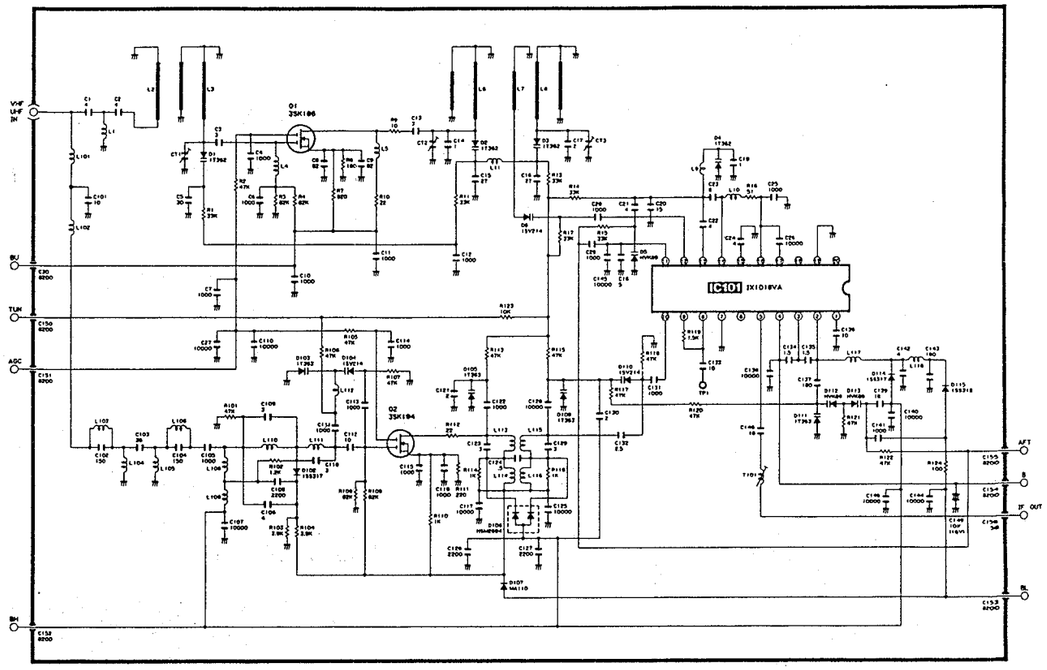
波形测量条件：

1. 施加于TP201的色带信号应为2.0V峰间值。
2. 调谐器AGC(自动增益控制)电压约为4V。

除特别说明者外，所有的二极管均为1SS119，另外，所有的电阻也均为⅛W。

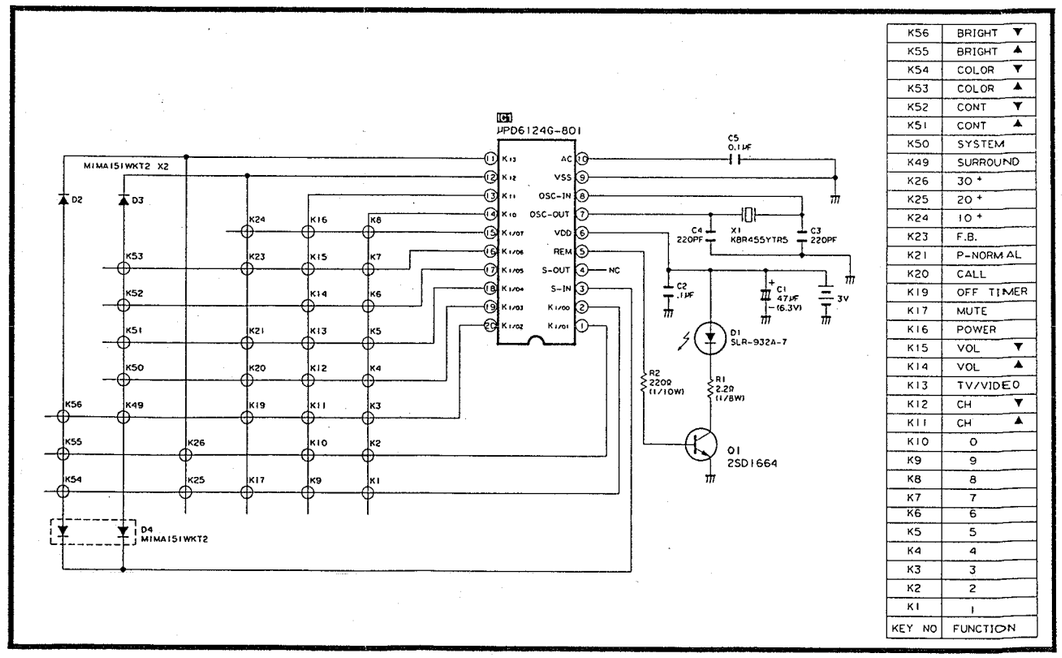
## TUNER 调谐器

⚠ VTUVTS56S1///



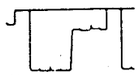
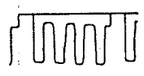
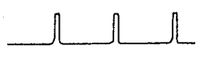
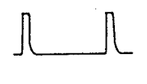
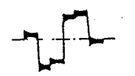
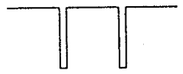
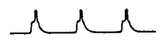
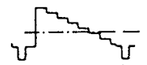

## INFRARED REMOTE CONTROL UNIT 红外线遥控器

RRMCG0933CESA




| KEY NO | FUNCTION |
|---|---|
| K56 | BRIGHT ▼ |
| K55 | BRIGHT ▲ |
| K54 | COLOR ▼ |
| K53 | COLOR ▲ |
| K52 | CONT ▼ |
| K51 | CONT ▲ |
| K50 | SYSTEM |
| K49 | SURROUND |
| K26 | 30 + |
| K25 | 20 + |
| K24 | 10 + |
| K23 | F.B. |
| K21 | P-NORMAL |
| K20 | CALL |
| K19 | OFF TIMER |
| K17 | MUTE |
| K16 | POWER |
| K15 | VOL ▼ |
| K14 | VOL ▲ |
| K13 | TV/VIDEO |
| K12 | CH ▼ |
| K11 | CH ▲ |
| K10 | 0 |
| K9 | 9 |
| K8 | 8 |
| K7 | 7 |
| K6 | 6 |
| K5 | 5 |
| K4 | 4 |
| K3 | 3 |
| K2 | 2 |
| K1 | 1 |

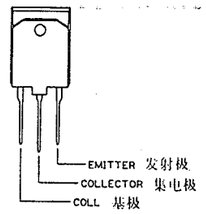
# WAVE FORMS
波形图

| | | | |
|---|---|---|---|
| | | |  |
| ① 2.0 Vp-p (H) | ⑦ 0.8 Vp-p (H) | ⑬ 0.64 Vp-p (H) | ⑲ 90 Vp-p (H) |
| | | |  |
| ② 2.0 Vp-p (H) | ⑧ 58 Vp-p (H) | ⑭ 2.3 Vp-p (H) | ⑳ 90 Vp-p (H) |
| | | | |
| ③ 8.4 Vp-p (H) | ⑨ 1080 Vp-p (H) | ⑮ 0.34 Vp-p (H) | ㉑ 250 Vp-p AC110V (500 Vp-p AC220V) |
|  |  |  | |
| ④ 5.0 Vp-p (V) | ⑩ 13.5 Vp-p (H) | ⑯ 0.88 Vp-p (H) | |
|  |  | | |
| ⑤ 4.2 Vp-p (V) | ⑪ 9.6 Vp-p (H) | ⑰ 0.7 Vp-p (H) | |
| |  | | |
| ⑥ 56 Vp-p (V) | ⑫ 0.8 Vp-p (H) | ⑱ 96 Vp-p (H) | |

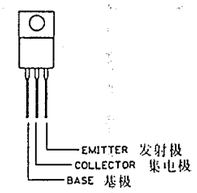


# SOLID STATEDEVICE BASE DIAGRAMS
固态部件基座图

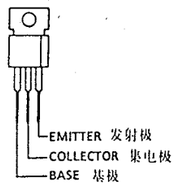
VS2SD1910//2E



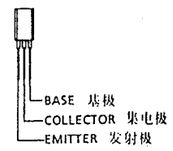

RH-iX0013AEZZ



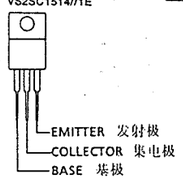

VS2SC2068LB1E



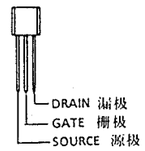

VS2SC2655Y-1
VS2SC2236Y/-1



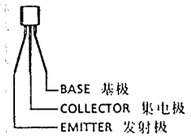

VS2SC4544LB1E
VS2SC1827//2E
VS2SC2168Y/1E
VS2SC1514//1E



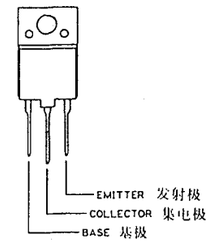

VS2SK304CD/-1




VS2SA1266-Y-1
VS2SC3198-G-1
VS2SC1815GW-1
VS2SC383-WT-1
VS2SA1015Y/1E
VS2SA1015GW-1
VS2SC3399//-1
VS2SC3402//-1

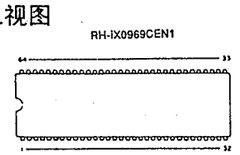



VS2SC3886A/1E

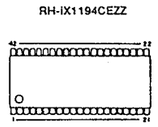



## TOP VIEW
上视图

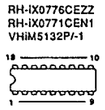
RH-iX0969CEN1



RH-iX1194CEZZ

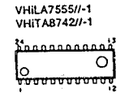


RH-iX0776CEZZ
RH-iX0771CEN1
VHiM5132P/-1



VHiLH5047//-1
RH-iX0214CEZZ

VHiLA7555//-1
VHiTA8742//-1



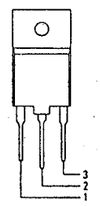
RH-FX0012CEZZ

VHiMPC1891Y-1

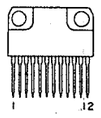
VHiLM358P//-1
VHiiR9358//-1

## SIDE VIEW
侧视图

VHiTA7812S/-1
VHiHA17812W-1
VHiSE120N//-1

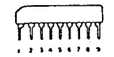


VHiMC13500T2E

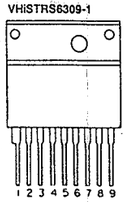


VHiTA8710S/-1

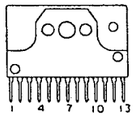
VHiTA7384P/-1
RH-iX0260CEZZ
RH-iX0241CEZZ



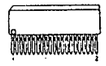
VHiSTRS6309-1



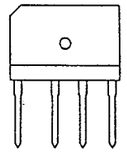
VHiLA7838//-1



VHiTA8763Z/-1



RH-DX0336CEZZ



iX0249CE

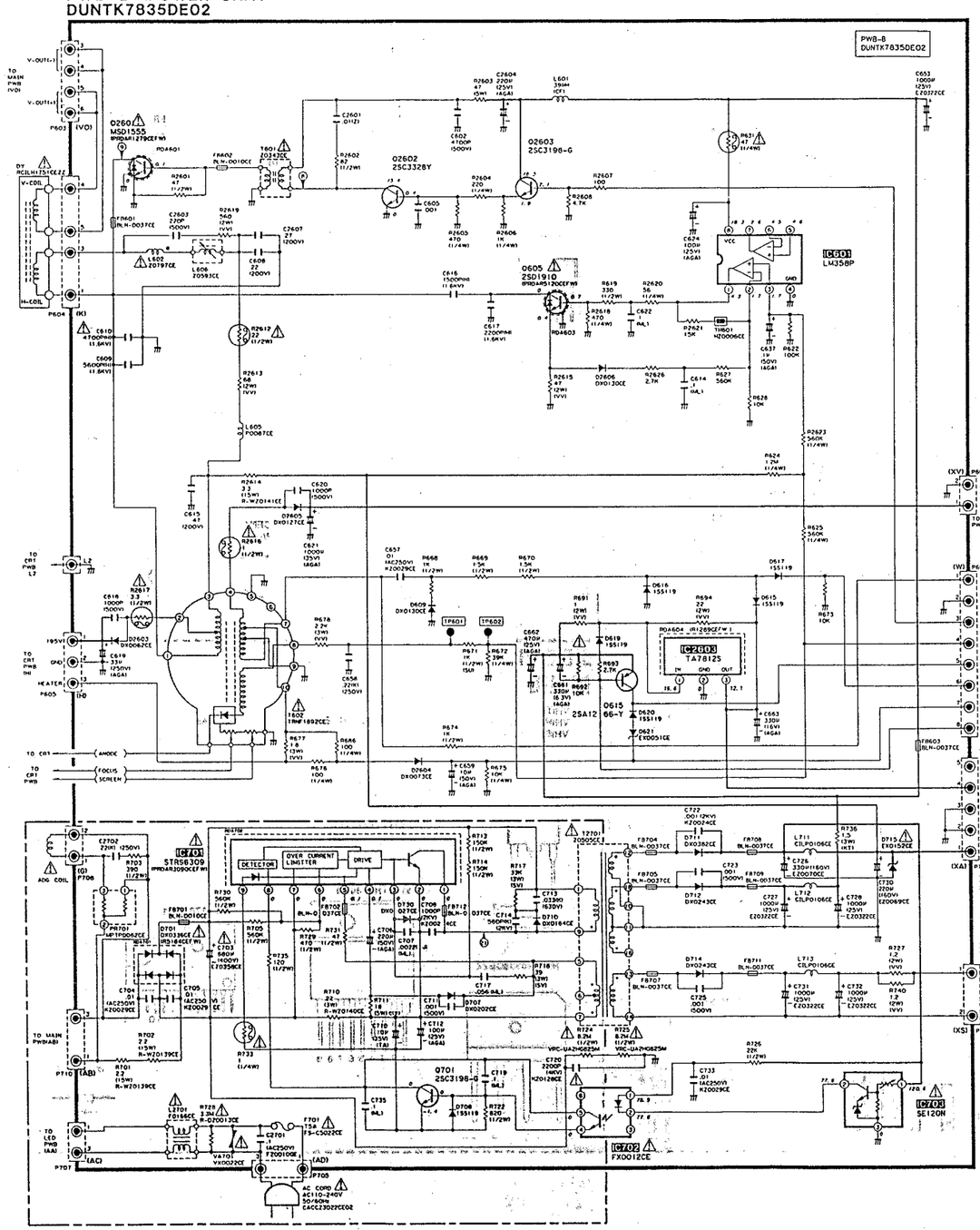
# MODEL 25AN1 SCHEMATIC DIAGRAM: SUB

型号25AN1 原理图：副电路

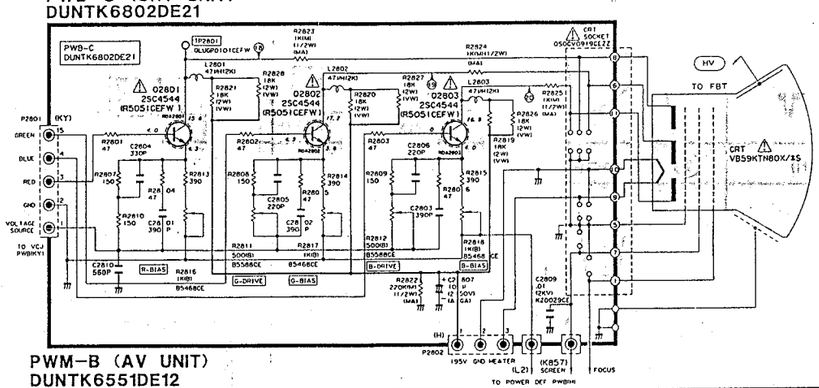
*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

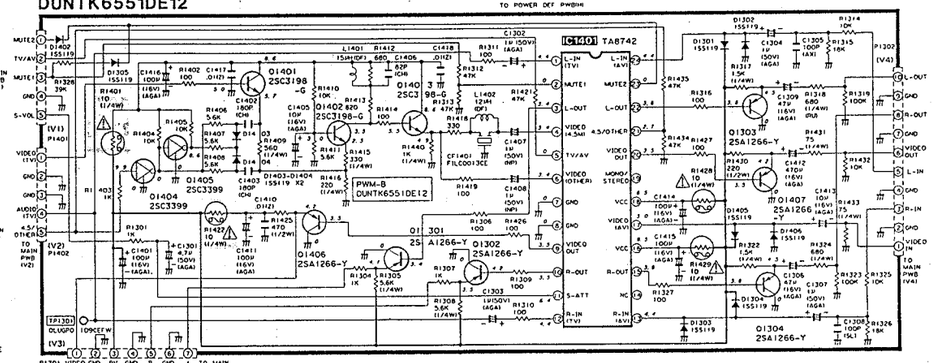
PWB-B (POWER UNIT)
DUNTK7835DE02



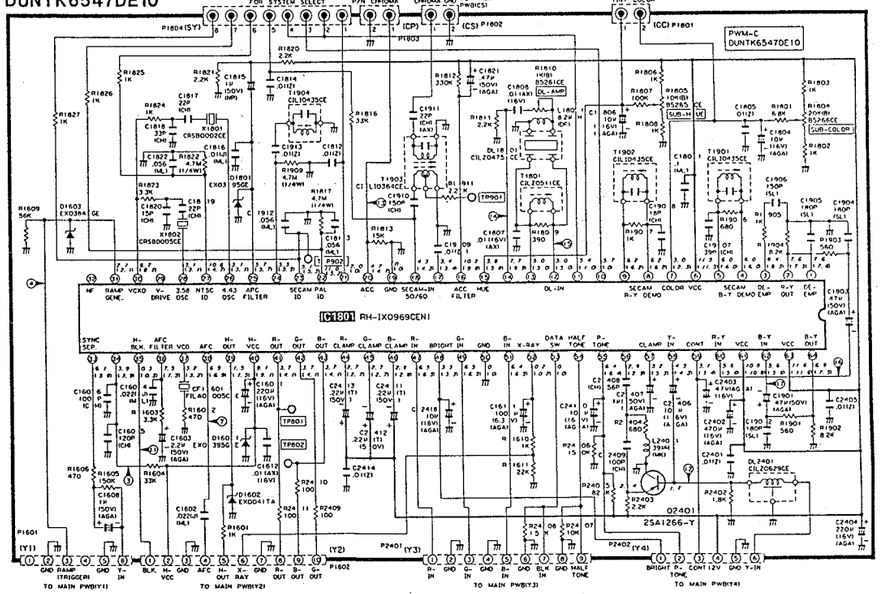
PWB-C (CRT UNIT)
DUNTK6802DE21



PWM-B (AV UNIT)
DUNTK6551DE12



PWM-C (VIDEO CHROMA JUNGLE UNIT)
DUNTK6547DE10



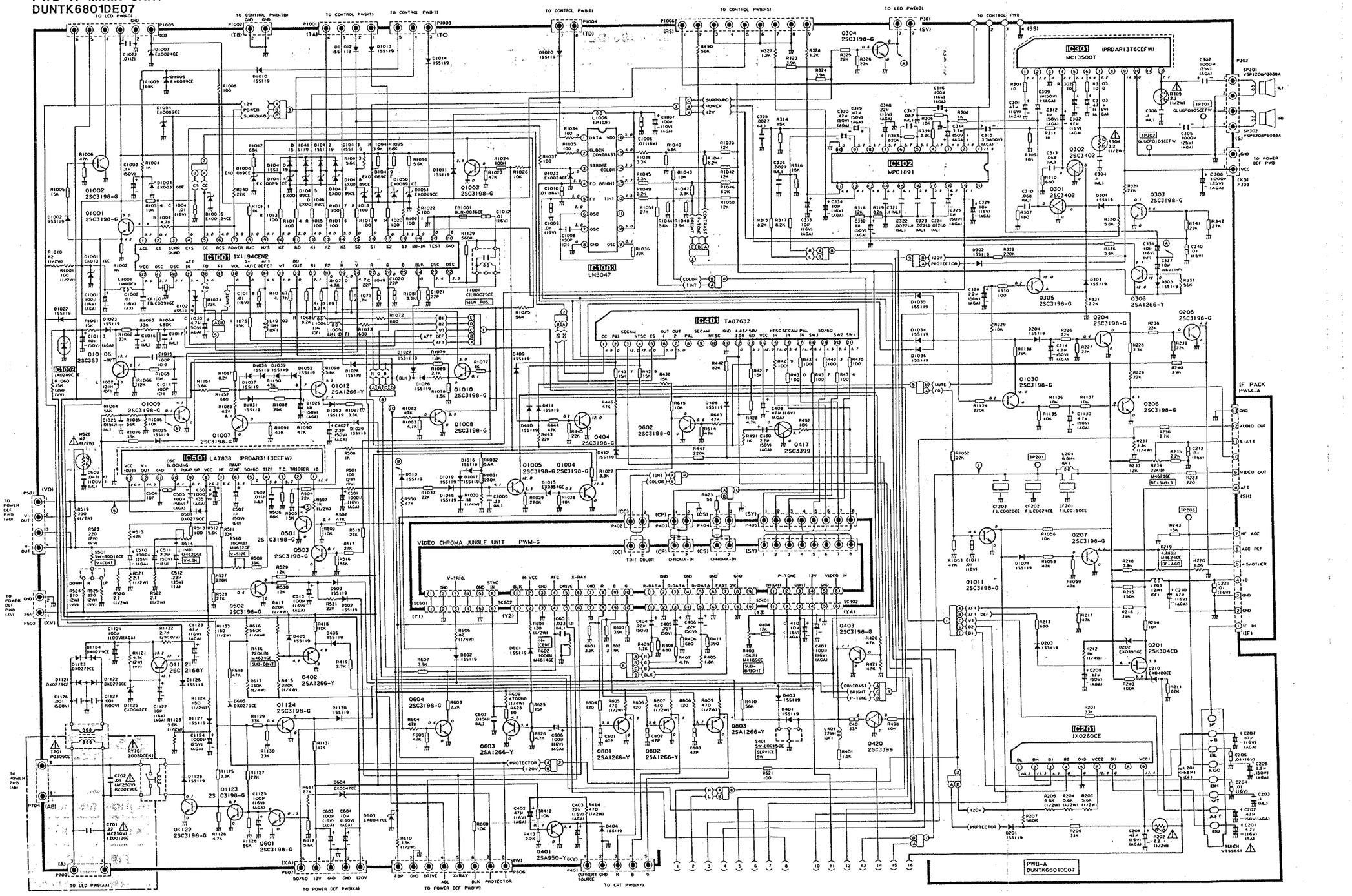
# MODEL 25AN1 SCHEMATIC DIAGRAM: MAIN1

型号25AN1 原理图：主电路1

PWB-A (MAIN UNIT)
DUNTK6801DE07

*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。



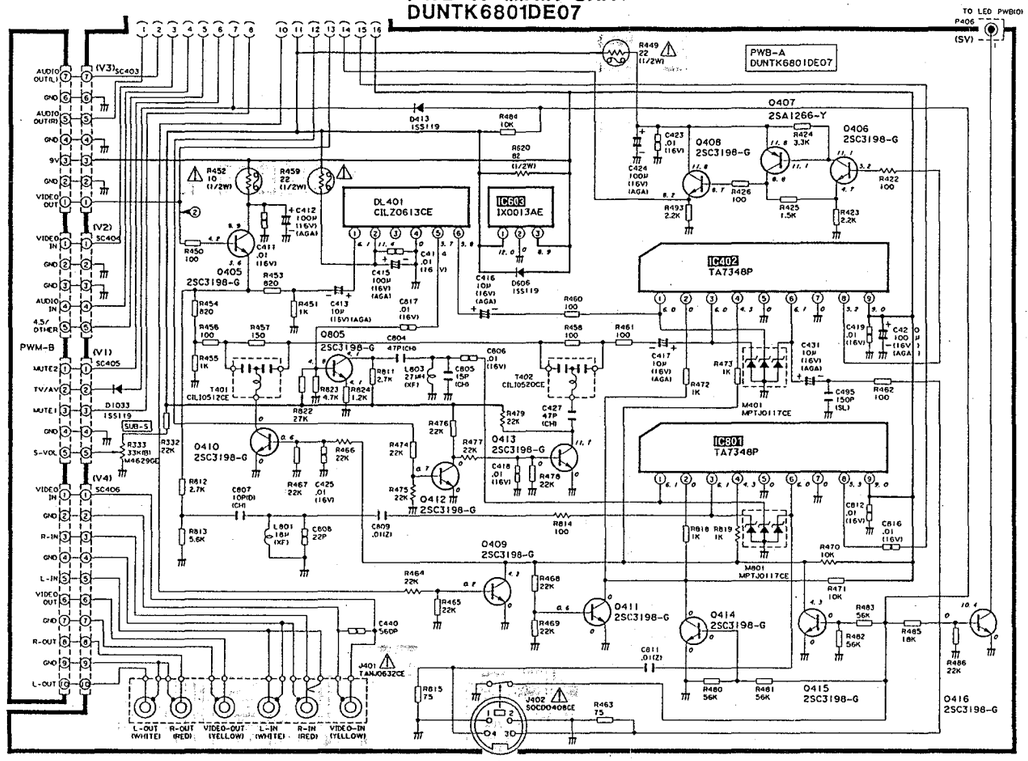
# MODEL 25AN1 SCHEMATIC DIAGRAM: MAIN2

型号25AN1 原理图：主电路2

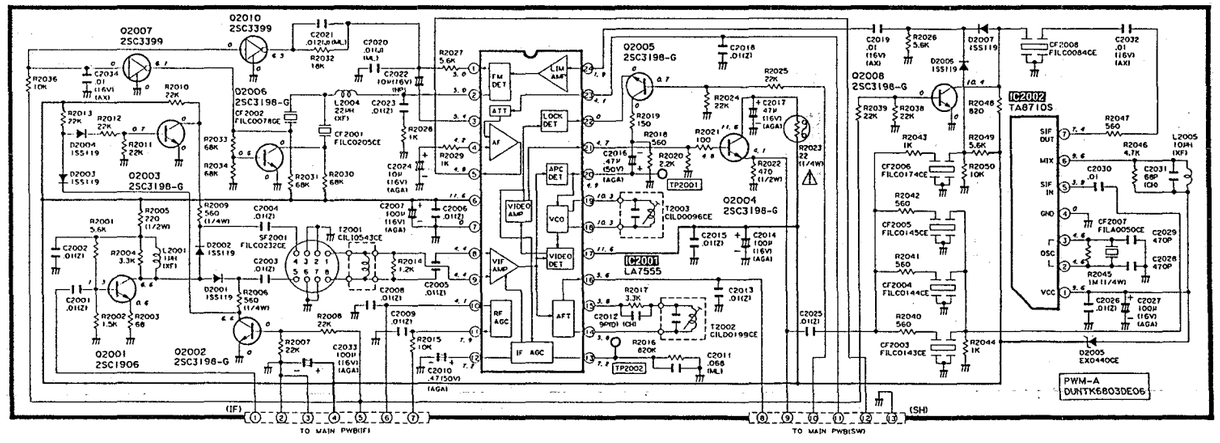
*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

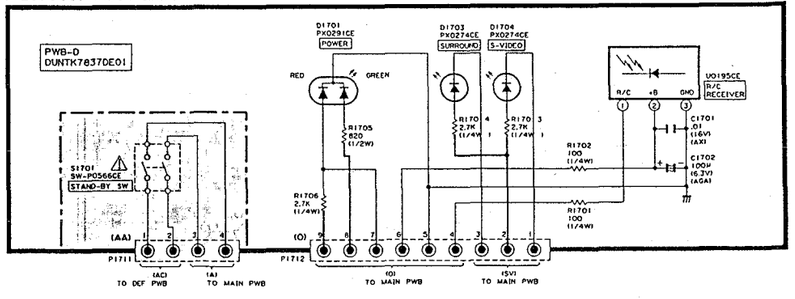
PWB-A (MAIN UNIT)
DUNTK6801DE07




PWM-A (IF PACK UNIT)
DUNTK6803DE06




PWB-D (LED UNIT)
DUNTK7837DE01



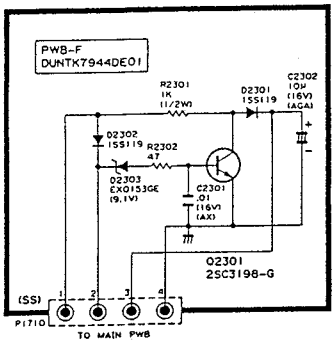
# MODEL 25AN1 SCHEMATIC DIAGRAM: MAIN3

型号25AN1 原理图：主电路3

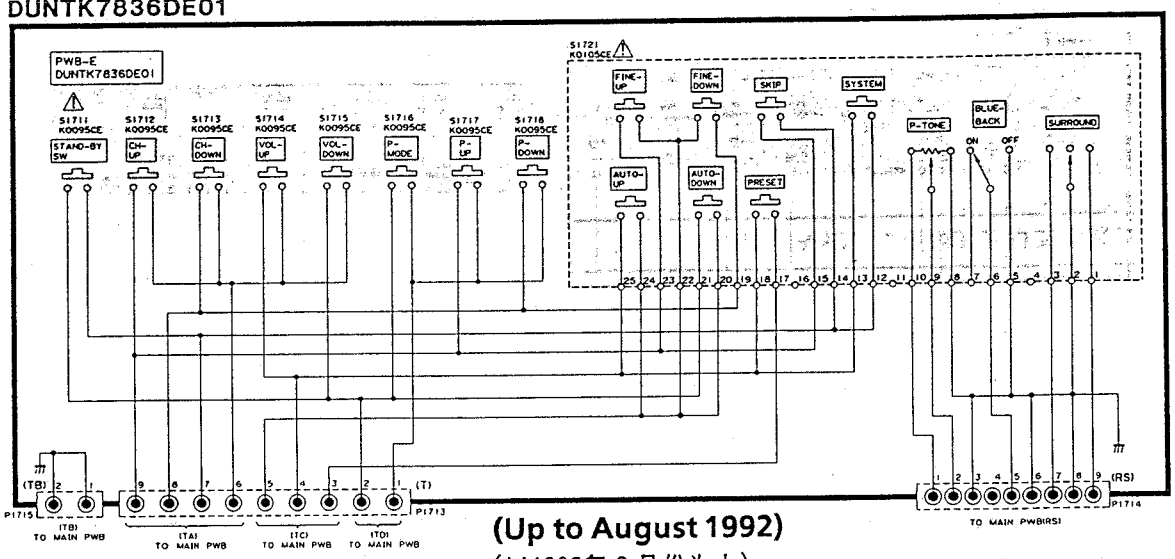
PWB-F (S-MUTE UNIT)
DUNTK7944DE01

**(Up to August 1992)**

（以1992年 8 月份为止）



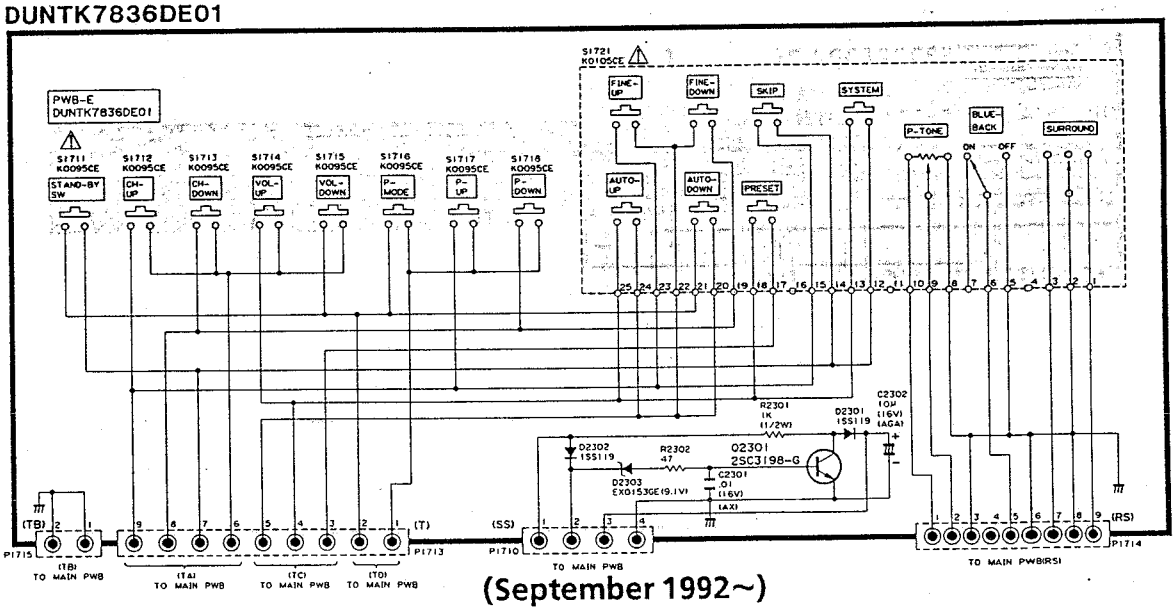

PWB-E (CONTROL UNIT)
DUNTK7836DE01




**(Up to August 1992)**

（以1992年 8 月份为止）

PWB-E (CONTROL UNIT)
DUNTK7836DE01




**(September 1992~)**

（自1992年 9 月份起）

*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

*NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.*

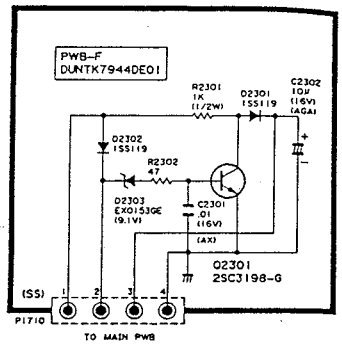
注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

# MODEL 29AN1 SCHEMATIC DIAGRAM: MAIN3

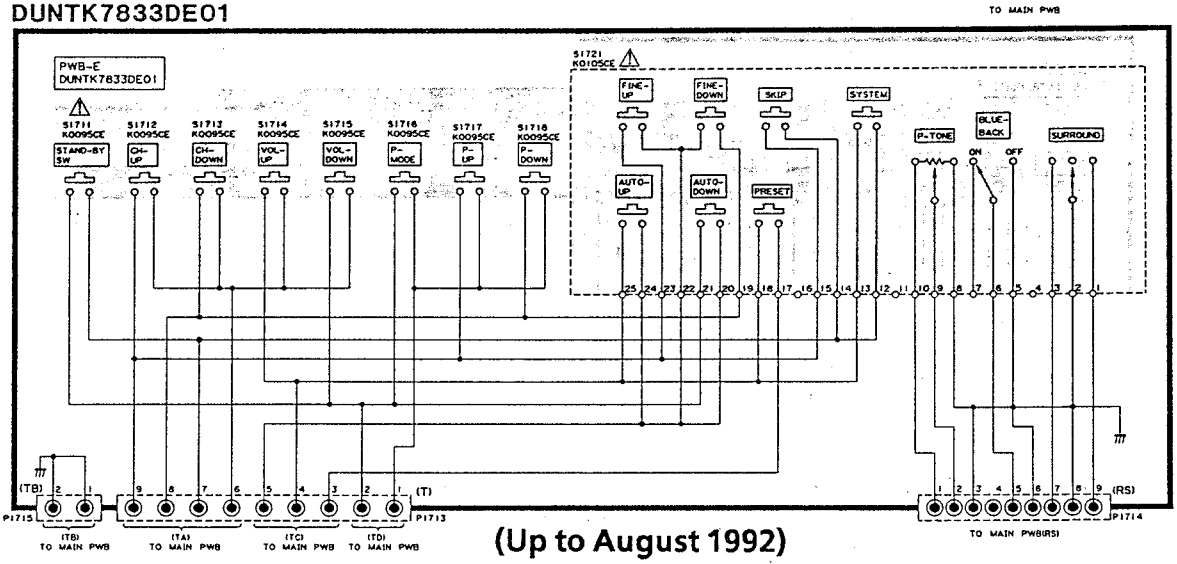
型号29AN1 原理图：主电路3

PWB-F (S-MUTE UNIT)
DUNTK7944DE01



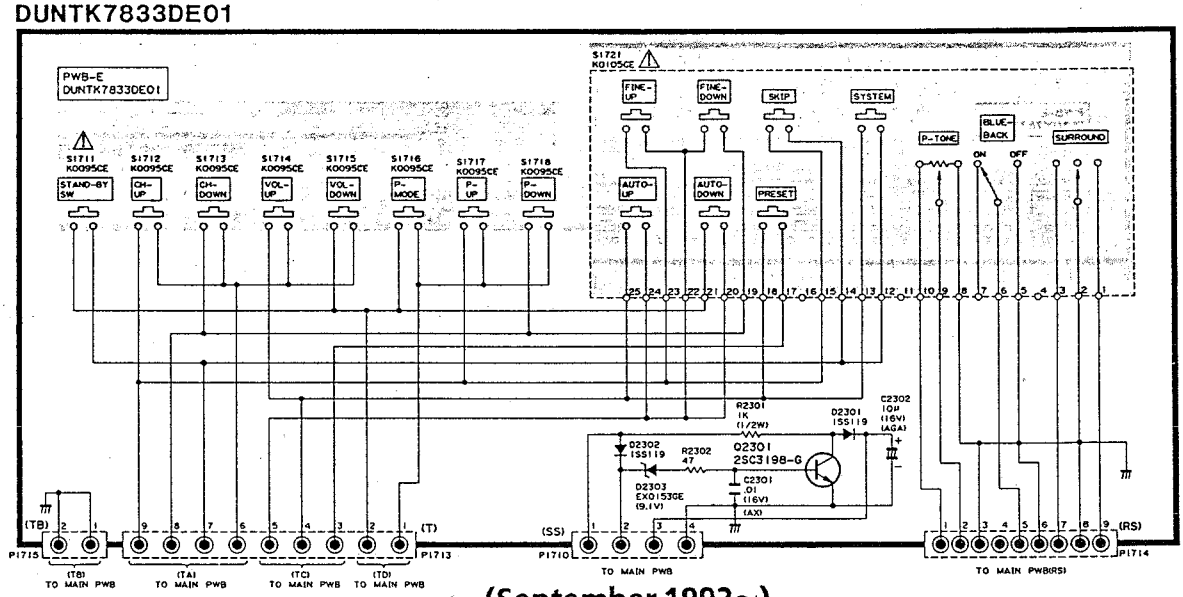

(Up to August 1992)
(以1992年 8 月份为止)

PWB-E (CONTROL UNIT)
DUNTK7833DE01




(Up to August 1992)
(以1992年 8 月份为止)

PWB-E (CONTROL UNIT)
DUNTK7833DE01




(September 1992~)
(自1992年 9 月份起)

*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

*NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.*

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

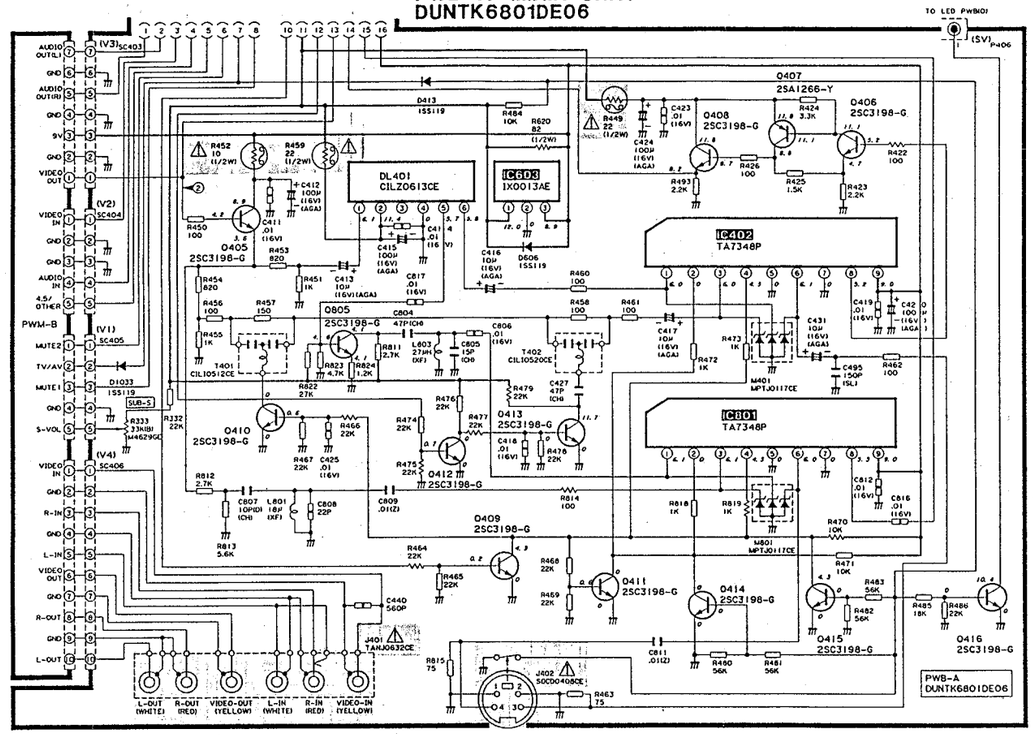
# MODEL 29AN1 SCHEMATIC DIAGRAM: MAIN2

型号29AN1 原理图：主电路2

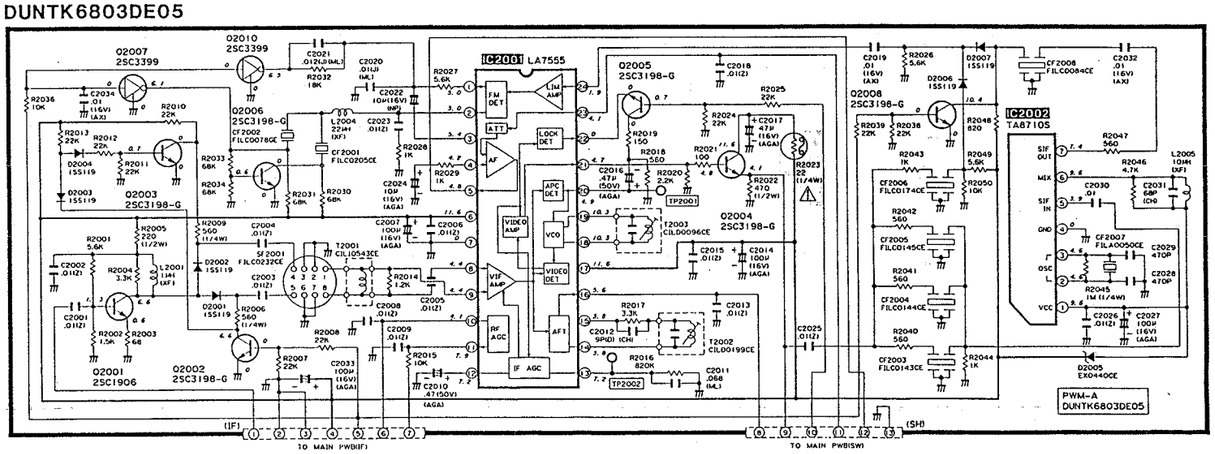
*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

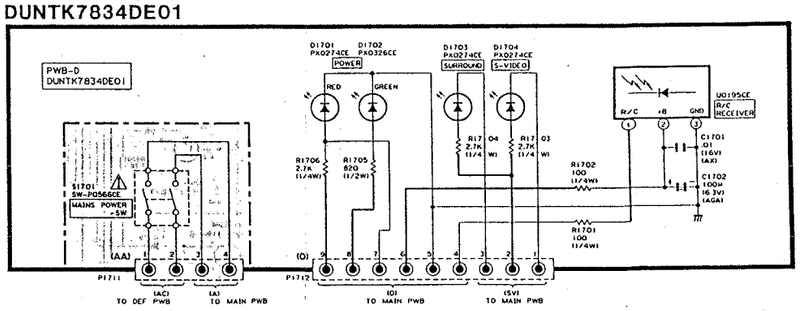
## PWB-A (MAIN UNIT)
## DUNTK6801DE06




## PWM-A (IF PACK UNIT)
## DUNTK6803DE05




## PWB-D (LED UNIT)
## DUNTK7834DE01



25AN1
29AN1

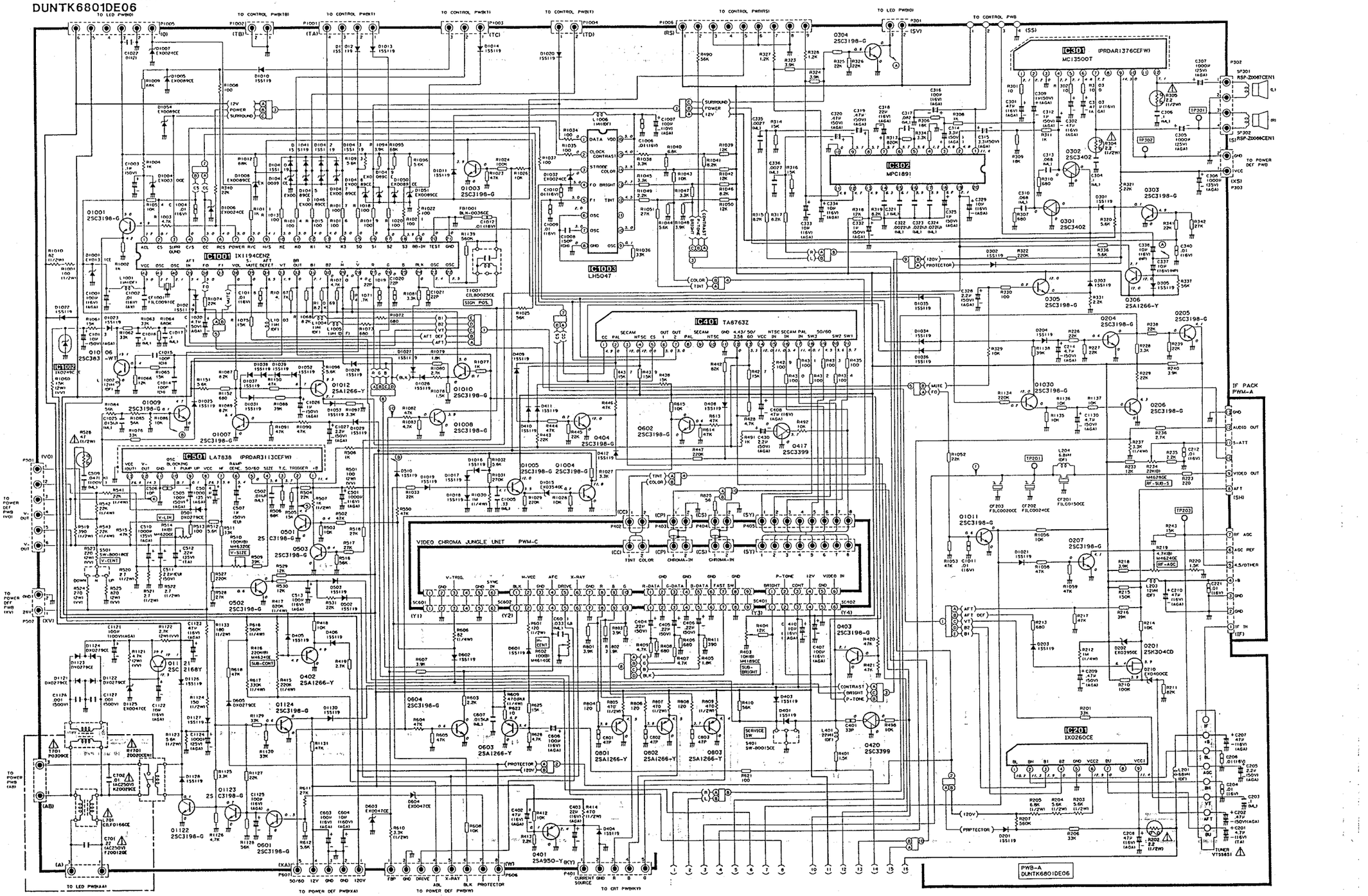
# MODEL 29AN1 SCHEMATIC DIAGRAM: MAIN1

## 型号29AN1 原理图：主电路1

*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

PWB-A (MAIN UNIT)
DUNTK6801DE06

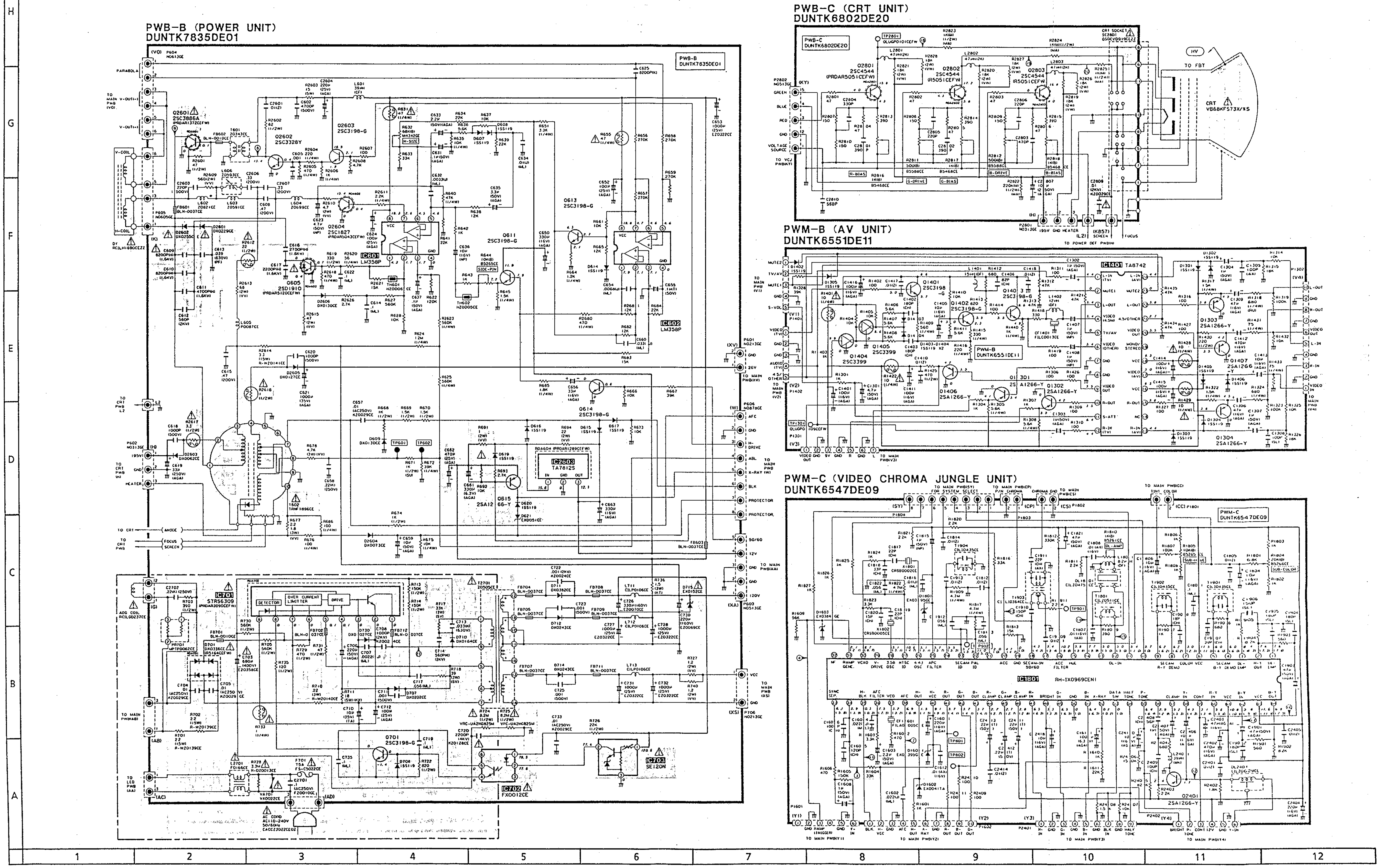


# MODEL 29AN1 SCHEMATIC DIAGRAM: SUB

型号29AN1 原理图：副电路

*CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.*

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

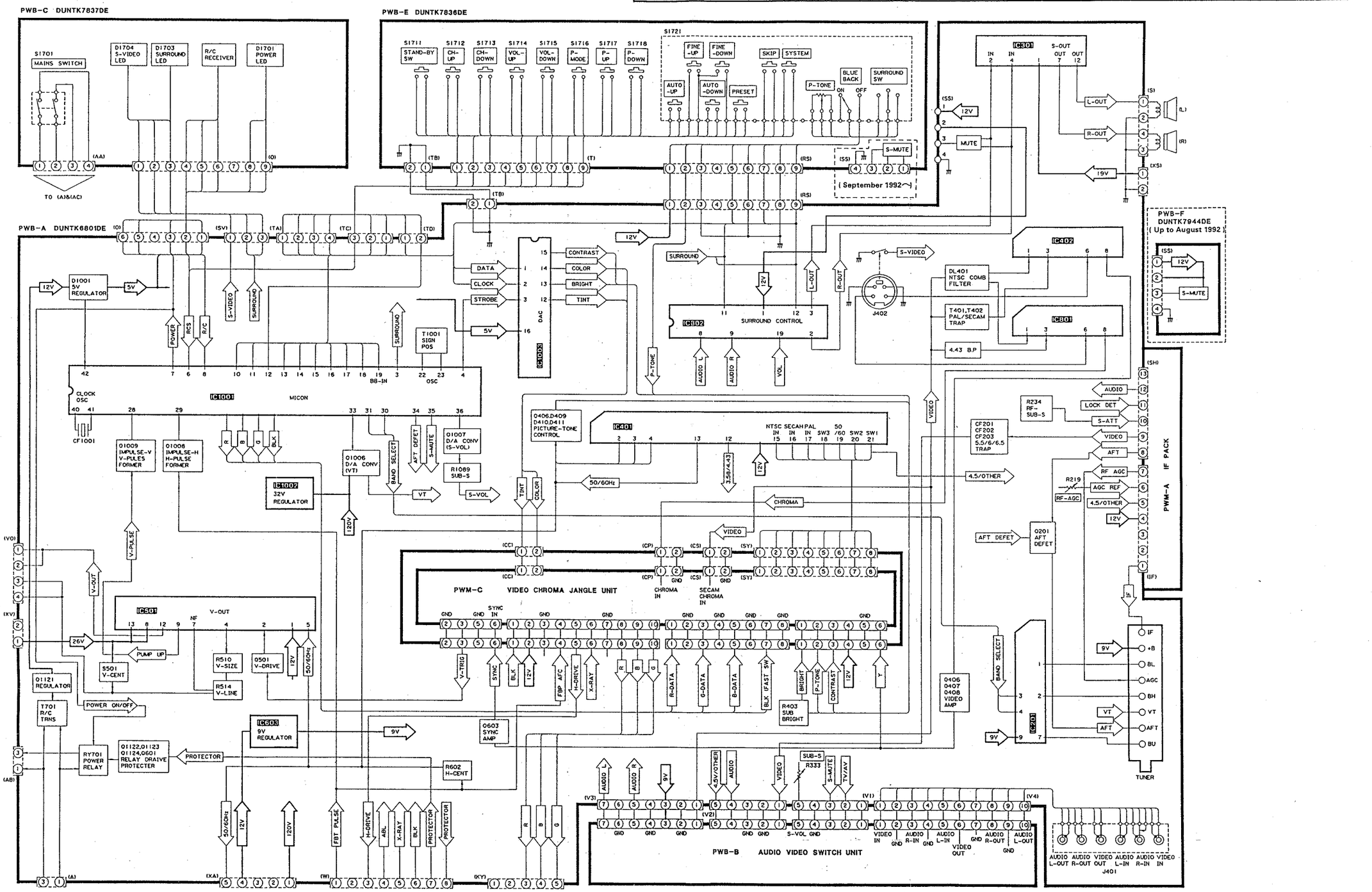

PWB-B (POWER UNIT)
DUNTK7835DE01
PWB-C (CRT UNIT)
DUNTK6802DE20
PWM-B (AV UNIT)
DUNTK6551DE11
PWM-C (VIDEO CHROMA JUNGLE UNIT)
DUNTK6547DE09
IC601 LM358P
IC602 LM358P
IC2603 TA7812S
IC701 STRS6309
IC702 FX0012CE
IC703 SE120N
IC1401 TA8742
IC1801 RH-IX0969CEN1
CRT VB68KFS73X/XS
TO FBT

# MODEL 25AN1 BLOCK DIAGRAM: MAIN

## 型号25AN1 方框图：主电路

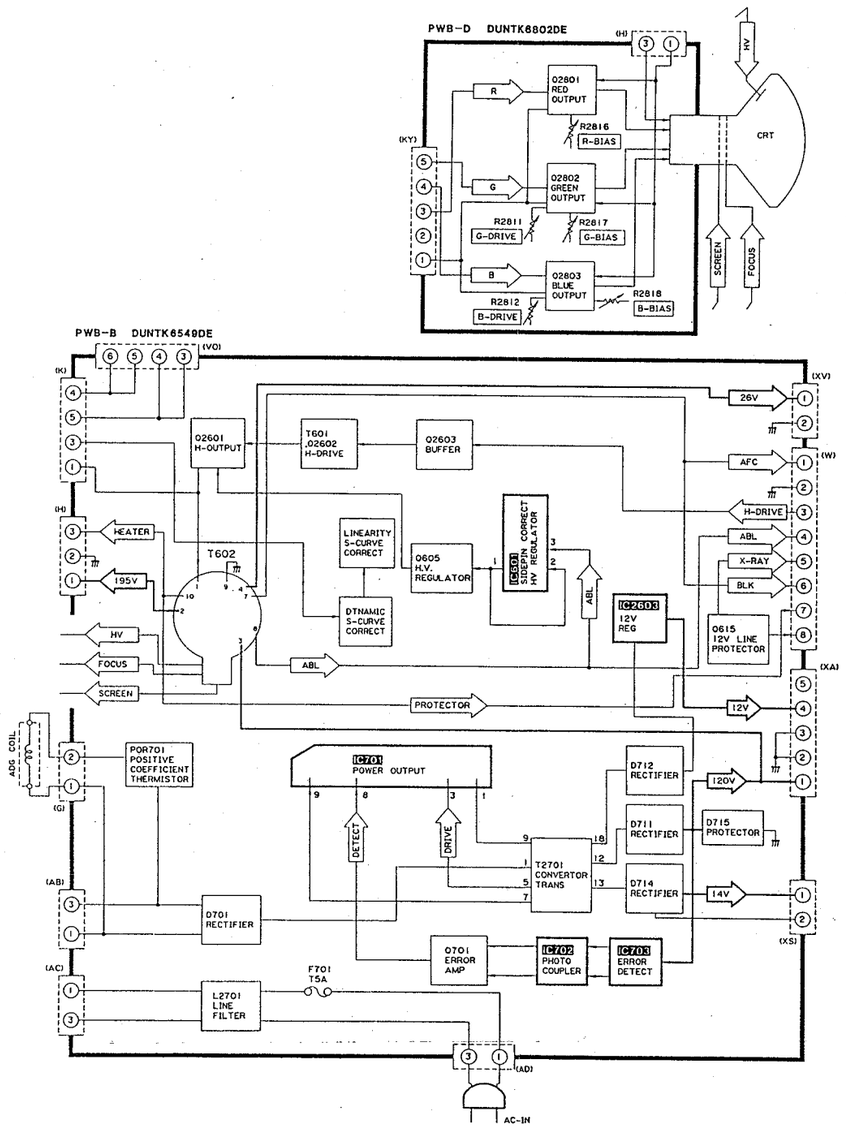
*NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.*

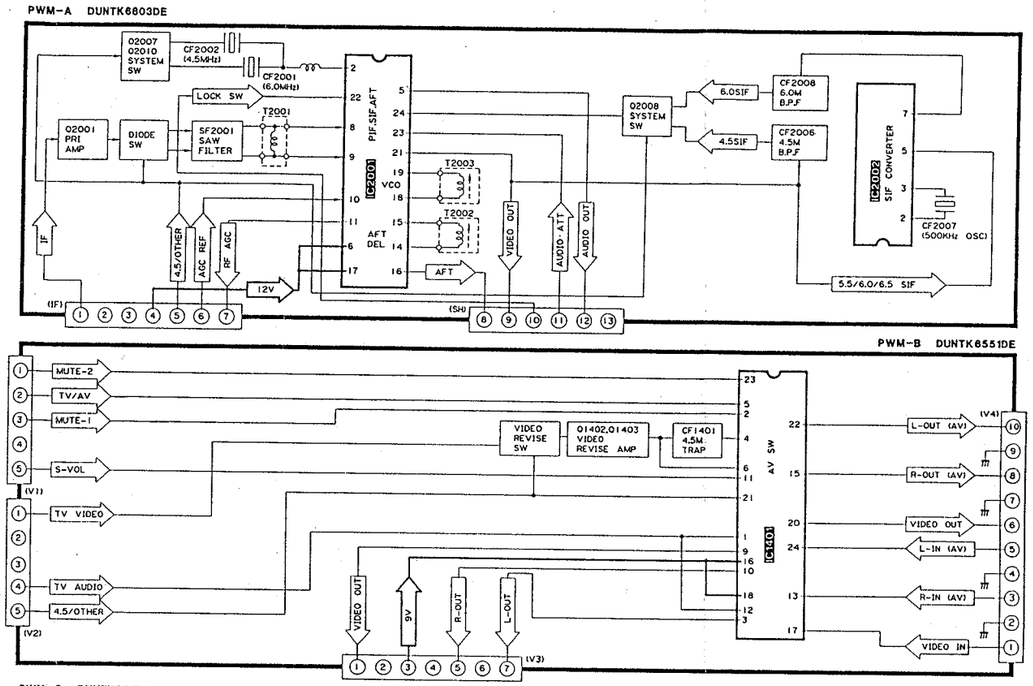
注意：关于1992年9月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。



# MODEL 25AN1 BLOCK DIAGRAM: SUB

型号25AN1 方框图：副电路



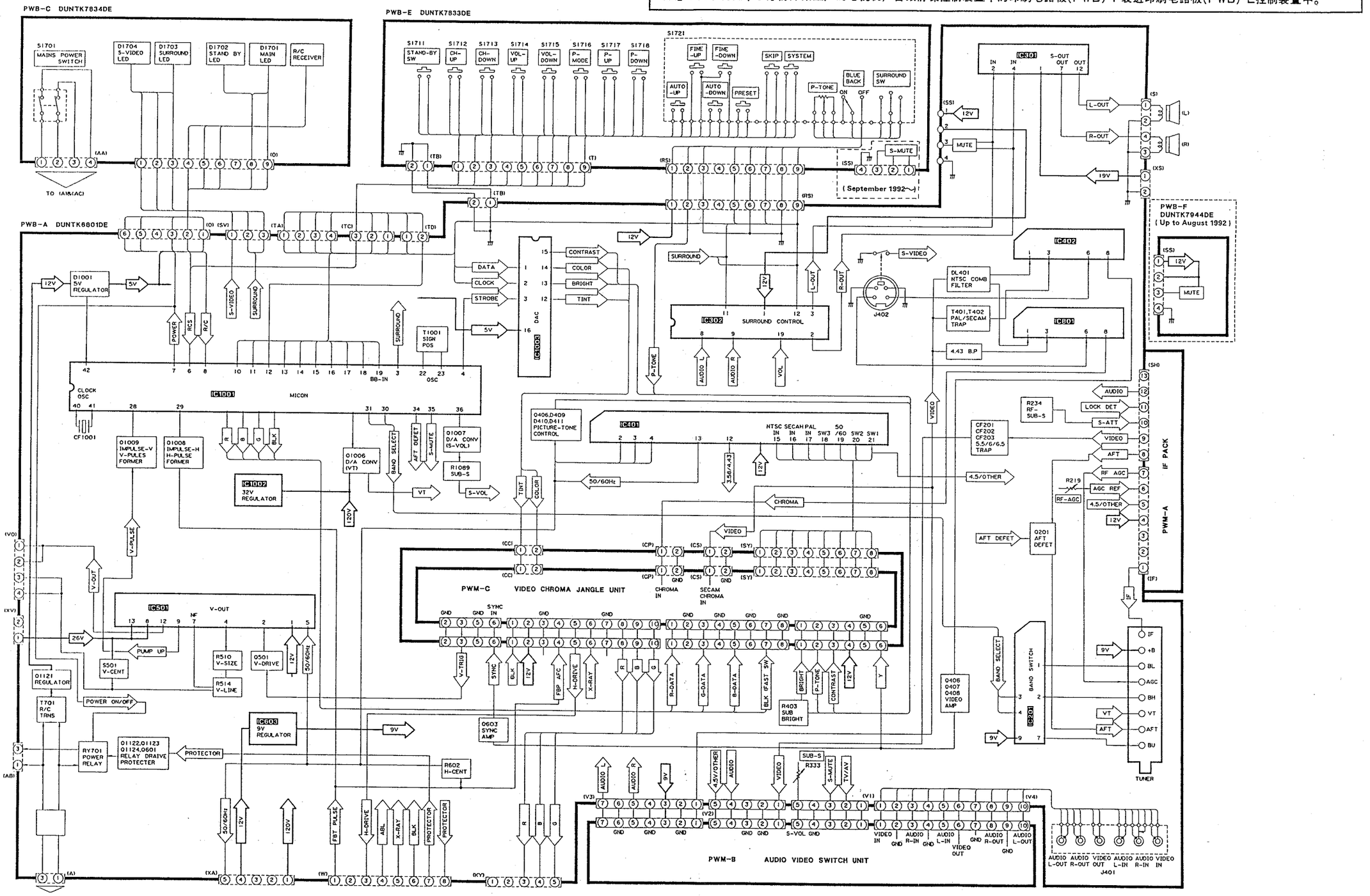
25AN1
29AN1

# MODEL 29AN1 BLOCK DIAGRAM: MAIN

型号29AN1 方框图：主电路

*NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.*

注意：关于1992年9月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

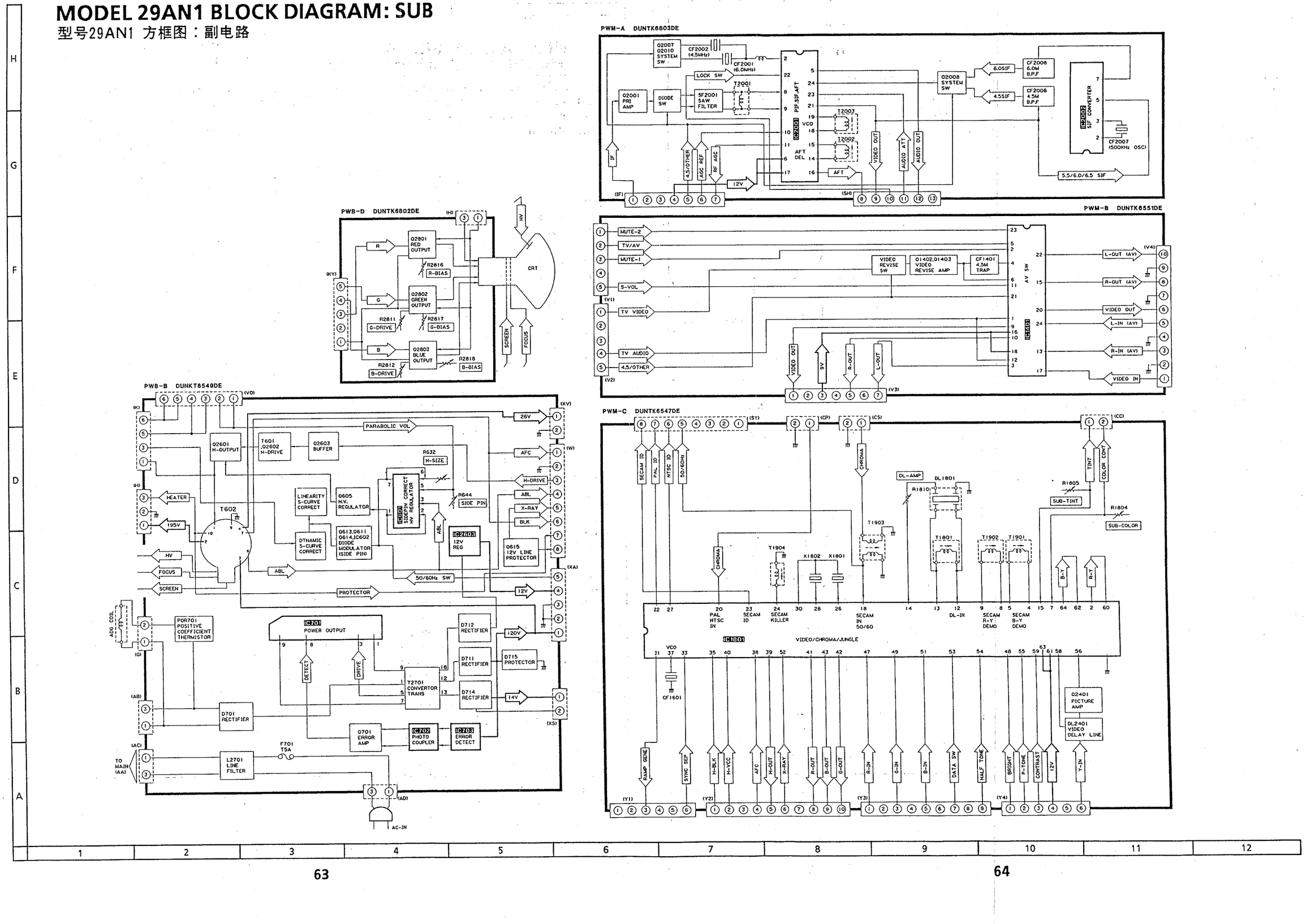



61

62

# MODEL 29AN1 BLOCK DIAGRAM: SUB

型号29AN1 方框图：副电路



# PARTS LIST

## PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by"⚠" in the Replacement Parts Lists. The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

### "HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

## 更换零件表

### 更换零件

本维修说明书对具有特别安全要求的零件均用标记加以识别：在此更换零件表中，具有特别安全要求的电路元件均用⚠标记以便注意识别。更换零件时，为了用户的安全以及电视机原有的工作性能，务请使用夏普规定零件。否则，可能有导致触电、火灾或其他不测事故发生的可能。

### 更换零件的订货方法

为了能迅速而确实地接受订货、以及正确无误地按时交货，在订货时请将下列各项明确告知。

1. 型号
2. 参考编号
3. 零件编号
4. 零件名称

MARK ★: SPARE PARTS-DELIVERY SECTION

★标记：更换零件的交货部门

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

## PRINTED WIRING BOARD ASSEMBLIES

*( NOT REPLACEMENT ITEM )*

| | | | | |
|---|---|---|---|---|
| PWB-A | DUNTK6801DE06 | – | Mother Unit (29AN1) | — |
| PWB-A | DUNTK6801DE07 | – | Mother Unit (25AN1) | — |
| PWB-B | DUNTK7835DE01 | – | Deflection/Power Unit (29AN1) | — |
| PWB-B | DUNTK7835DE02 | – | Deflection Unit (25AN1) (25AN1) | — |
| PWB-C | DUNTK6802DE20 | – | CRT Socket Unit (29AN1) | — |
| PWB-C | DUNTK6802DE21 | – | CRT Socket Unit (25AN1) | — |
| PWB-D | DUNTK7834DE01 | – | LED Unit (29AN1) | — |
| PWB-D | DUNTK7837DE01 | – | LED Unit (25AN1) | — |
| PWB-E | DUNTK7833DE01 | – | Control Unit (29AN1) | — |
| PWB-E | DUNTK7836DE01 | – | Control Unit (25AN1) | — |
| PWB-F | DUNTK7944DE01 | – | S-Mute Unit (Up to August 1992) | — |
| PWM-A | DUNTK6803DE05 | – | IF Unit (29AN1) | — |
| PWM-A | DUNTK6803DE06 | – | IF Unit (25AN1) | — |
| PWM-B | DUNTK6551DE11 | – | AV Unit (29AN1) | — |
| PWM-B | DUNTK6551DE12 | – | AV Unit (25AN1) | — |
| PWM-C | DUNTK6547DE09 | – | VCJ Unit (29AN1) | — |
| PWM-C | DUNTK6547DE10 | – | VCJ Unit (25AN1) | — |

—— End of PWB ASSEMBLIES ——

## PICTURE TUBE

| | | | | |
|---|---|---|---|---|
| ⚠ VB1 | VB59KTN80X/*S | J | CRT (25AN1) | CR |
| ⚠ VB1 | VB68KFS73X/*S | J | CRT (29AN1) | CY |
| ⚠DY | RCiLH1690CEZZ | J | Deflection Yoke (29AN1) | BH |
| ⚠DY | RCiLH1751CEZZ | J | Deflection Yoke (25AN1) | BE |
| ⚠ | RCiLG0237CEZZ | J | Degaussing (ADG) Coil (25AN1) | AX |
| ⚠ | RCiLG0375CEZZ | J | Degaussing (ADG) Coil (29AN1) | AY |
| | LHLDC3011CEZZ | J | ADG Coil Holder, ×4 used | AC |

—— End of PICTURE TUBE ——

## PWB-A DUNTK6801DE06/07 MOTHER UNIT

### TUNER

***NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.***

| | | | | |
|---|---|---|---|---|
| ⚠ | VTUVTSS6S1/// | J | Tuner, VHF/UHF | BB |

### INTEGRATED CIRCUITS

| | | | | |
|---|---|---|---|---|
| IC201 | RH-iX0260CEZZ | J | LA7910 | AF |
| IC301 | VHiMC13500T2E | J | MC13500T2 | AN |
| IC302 | VHiMPC1891Y-1 | J | C1891ACY | AP |
| IC401 | VHiTA8763Z/-1 | J | TA8763Z | AM |
| IC402 | VHiTA7348P/-1 | J | TA7348P | AK |
| IC501 | VHiLA7838//-1 | J | LA7838 | AK |
| IC603 | RH-iX0013AEZZ | J | TA78009AP | AK |
| IC801 | VHiTA7348P/-1 | J | TA7348P | AK |



| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

## PWB-A DUNTK6801DE06/07 MOTHER UNIT (Continued)

### NTEGRATED CIRCUITS (Continued)

| | | | | |
|---|---|---|---|---|
| IC1001 | RH-iX1194CEN2 | J | LR37906Y | AW |
| IC1002 | RH-iX0249CEZZ | J | HZT33 | AE |
| IC1003 | VHiLH5047//-1 | J | LH5047 | AM |

### TRANSISTORS

| | | | | |
|---|---|---|---|---|
| Q201 | VS2SK304CD/-1 | J | 2SK304 (CD) | AC |
| Q204 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q205 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q206 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q207 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q301 | VS2SC3402//-1 | J | 2SC3402 | AB |
| Q302 | VS2SC3402//-1 | J | 2SC3402 | AB |
| Q303 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q304 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q305 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q306 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q401 | VS2SA950-Y/1E | J | 2SA950 (Y) | AD |
| Q402 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q403 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q404 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q405 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q406 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q407 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q408 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q409 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q410 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q411 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q412 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q413 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q414 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q415 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q416 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q417 | VS2SC3399//-1 | J | 2SC3399 | AB |
| Q420 | VS2SC3399//-1 | J | 2SC3399 | AB |
| Q501 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q502 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q503 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q601 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q602 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q603 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q604 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q801 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q802 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q803 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q805 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1001 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1002 | VS2SC3198-G-1 | J | 2SC3198 (G) (25AN1) | AA |
| Q1003 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1004 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1005 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

### TRANSISTORS (Continued)

| | | | | |
|---|---|---|---|---|
| Q1006 | VS2SC383-WT-1 | J | 2SC383 (WT) | AE |
| Q1007 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1008 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1009 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1010 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1011 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1012 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q1030 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1121 | VS2SC2168Y/1E | J | 2SC2168 (Y) | AG |
| Q1122 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1123 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1124 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |

### DIODES

| | | | | |
|---|---|---|---|---|
| D201 | VHD1SS119//1E | J | 1SS119 | AA |
| D202 | RH-EX0395GEZZ | J | Zener Diode | AA |
| D203 | VHD1SS119//1E | J | 1SS119 | AA |
| D204 | VHD1SS119//1E | J | 1SS119 | AA |
| D210 | RH-EX0400CEZZ | J | Zener Diode | AC |
| D301 | VHD1SS119//1E | J | 1SS119 | AA |
| D302 | VHD1SS119//1E | J | 1SS119 | AA |
| D303 | VHD1SS119//1E | J | 1SS119 | AA |
| D305 | VHD1SS119//1E | J | 1SS119 | AA |
| D401 | VHD1SS119//1E | J | 1SS119 | AA |
| D403 | VHD1SS119//1E | J | 1SS119 | AA |
| D404 | VHD1SS119//1E | J | 1SS119 | AA |
| D405 | VHD1SS119//1E | J | 1SS119 | AA |
| D406 | VHD1SS119//1E | J | 1SS119 | AA |
| D408 | VHD1SS119//1E | J | 1SS119 | AA |
| D409 | VHD1SS119//1E | J | 1SS119 | AA |
| D410 | VHD1SS119//1E | J | 1SS119 | AA |
| D411 | VHD1SS119//1E | J | 1SS119 | AA |
| D412 | VHD1SS119//1E | J | 1SS119 | AA |
| D413 | VHD1SS119//1E | J | 1SS119 | AA |
| D501 | RH-DX0279CEZZ | J | | AB |
| D502 | VHD1SS119//1E | J | 1SS119 | AA |
| D503 | VHD1SS119//1E | J | 1SS119 | AA |
| D510 | VHD1SS119//1E | J | 1SS119 (29AN1) | AA |
| D601 | VHD1SS119//1E | J | 1SS119 | AA |
| D602 | VHD1SS119//1E | J | 1SS119 | AA |
| D603 | RH-EX0047CEZZ | J | Zener Diode | AB |
| D604 | RH-EX0047CEZZ | J | Zener Diode | AB |
| D605 | RH-DX0279CEZZ | J | | AB |
| D606 | VHD1SS119//1E | J | 1SS119 | AA |
| D1001 | RH-EX0131GEZZ | J | Zener Diode | AB |
| D1002 | VHD1SS119//1E | J | 1SS119 (25AN1) | AA |
| D1004 | RH-EX0030GEZZ | J | Zener Diode | AB |
| D1005 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1006 | RH-EX0024CEZZ | J | Zener Diode | AB |
| D1007 | RH-EX0024CEZZ | J | Zener Diode | AB |
| D1008 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1010 | VHD1SS119//1E | J | 1SS119 | AA |
| D1011 | VHD1SS119//1E | J | 1SS119 | AA |

# PWB-A DUNTK6801DE06/07
## MOTHER UNIT (Continued)

### DIODES (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| D1012 | VHD1SS119//1E | J | 1SS119 | AA |
| D1013 | VHD1SS119//1E | J | 1SS119 | AA |
| D1014 | VHD1SS119//1E | J | 1SS119 | AA |
| D1015 | RH-EX0354GEZZ | J | Zener Diode | AA |
| D1016 | VHD1SS119//1E | J | 1SS119 | AA |
| D1017 | VHD1SS119//1E | J | 1SS119 | AA |
| D1018 | VHD1SS119//1E | J | 1SS119 | AA |
| D1019 | VHD1SS119//1E | J | 1SS119 | AA |
| D1020 | VHD1SS119//1E | J | 1SS119 | AA |
| D1021 | VHD1SS119//1E | J | 1SS119 | AA |
| D1022 | VHD1SS119//1E | J | 1SS119 | AA |
| D1023 | VHD1SS119//1E | J | 1SS119 | AA |
| D1024 | VHD1SS119//1E | J | 1SS119 | AA |
| D1025 | VHD1SS119//1E | J | 1SS119 | AA |
| D1026 | VHD1SS119//1E | J | 1SS119 | AA |
| D1027 | VHD1SS119//1E | J | 1SS119 | AA |
| D1028 | VHD1SS119//1E | J | 1SS119 | AA |
| D1029 | VHD1SS119//1E | J | 1SS119 | AA |
| D1031 | VHD1SS119//1E | J | 1SS119 | AA |
| D1032 | RH-EX0024CEZZ | J | Zener Diode | AB |
| D1033 | VHD1SS119//1E | J | 1SS119 | AA |
| D1034 | VHD1SS119//1E | J | 1SS119 | AA |
| D1035 | VHD1SS119//1E | J | 1SS119 | AA |
| D1036 | VHD1SS119//1E | J | 1SS119 | AA |
| D1037 | VHD1SS119//1E | J | 1SS119 | AA |
| D1038 | VHD1SS119//1E | J | 1SS119 | AA |
| D1039 | VHD1SS119//1E | J | 1SS119 | AA |
| D1040 | VHD1SS119//1E | J | 1SS119 | AA |
| D1041 | VHD1SS119//1E | J | 1SS119 | AA |
| D1042 | VHD1SS119//1E | J | 1SS119 | AA |
| D1043 | VHD1SS119//1E | J | 1SS119 | AA |
| D1044 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1045 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1046 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1047 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1048 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1049 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1050 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1051 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1052 | VHD1SS119//1E | J | 1SS119 | AA |
| D1053 | VHD1SS119//1E | J | 1SS119 | AA |
| D1054 | RH-EX0089CEZZ | J | Zener Diode | AB |
| D1121 | RH-DX0279CEZZ | J | | AB |
| D1122 | RH-DX0279CEZZ | J | | AB |
| D1123 | RH-DX0279CEZZ | J | | AB |
| D1124 | RH-DX0279CEZZ | J | | AB |
| D1125 | RH-EX0047CEZZ | J | Zener Diode | AB |
| D1126 | VHD1SS119//1E | J | 1SS119 | AA |
| D1127 | VHD1SS119//1E | J | 1SS119 | AA |
| D1128 | VHD1SS119//1E | J | 1SS119 | AA |
| D1130 | VHD1SS119//1E | J | 1SS119 | AA |

### PACKAGED CIRCUITS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| M401 | RMPTJ0117CEZZ | J | | AD |
| M801 | RMPTJ0117CEZZ | J | | AD |
| ⚠ RY701 | RRLYZ0020CEN1 | J | Positive Coefficient Thermistor | AK |

### COILS AND TRANSFORMERS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| CF201 | RFiLC0150CEZZ | J | Ceramic Filter | AF |
| CF202 | RFiLC0024CEZZ | J | Ceramic Filter | AE |
| CF203 | RFiLC0020CEZZ | J | Ceramic Filter | AE |
| CF1001 | RFiLC0091GEZZ | J | Ceramic Filter | AD |
| DL401 | RFiLZ0613CEZZ | J | Coil | AT |
| L201 | VP-DF680K0000 | J | Coil, 68μH | AB |
| L203 | VP-DF120K0000 | J | Coil, 12μH | AB |
| L204 | VP-DF6R8K0000 | J | Coil, 6.8μH | AB |
| L401 | VP-DF220K0000 | J | Coil, 22μH | AB |
| L801 | VP-XF180K0000 | J | Coil, 18μH | AB |
| L803 | VP-XF270K0000 | J | Coil, 27μH | AB |
| L1001 | VP-DF1R0K0000 | J | Coil, 1μH | AB |
| L1002 | VP-DF120K0000 | J | Coil, 12μH | AB |
| L1003 | VP-DF1R0K0000 | J | Coil, 1μH | AB |
| L1004 | VP-DF1R0K0000 | J | Coil, 1μH | AB |
| L1005 | VP-DF1R0K0000 | J | Coil, 1μH | AB |
| L1006 | VP-DF1R0K0000 | J | Coil, 1μH | AB |
| T401 | RCiLi0512CEZZ | J | | AE |
| T402 | RCiLi0520CEZZ | J | | AE |
| ⚠ T701 | RTRNP0309CEZZ | J | | AS |
| T1001 | RCiLB0025CEZZ | R | Sign Position Adj. Coil | AD |

### CONTROLS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R219 | RVR-M4624GEZZ | J | 4.7k (B) RF-AGC | AB |
| R234 | RVR-M4628GEZZ | J | 22k (B) RF-Sub-S | AB |
| R333 | RVR-M4629GEZZ | J | 33k (B) Sub-S | AB |
| R403 | RVR-M4189CEZZ | J | 10k (B) Sub-Bright | AC |
| R416 | RVR-M4634GEZZ | J | 220k (B) Sub-Contrast | AC |
| R510 | RVR-M4632GEZZ | J | 100k (B) Vertical Size | AB |
| R514 | RVR-M4620GEZZ | J | 1k (B) Vertical Line. | AB |
| R602 | RVR-M4614GEZZ | J | 100 (B) Horiz. -Center | AB |

### CAPACITORS

| Ref. No. | Part No. | ★ | | | Description | Code |
|---|---|---|---|---|---|---|
| C201 | VCSATA1CE475K | J | 4.7 | 16V | Tantalum | AC |
| C202 | VCEAGA1HW474M | J | 0.47 | 50V | Electrolytic | AA |
| C203 | VCFYHA1HA104J | J | 0.1 | 50V | M. Polyester | AB |
| C204 | VCKYMN1CY103N | J | 0.01 | 16V | Ceramic | AA |
| C205 | VCEAGA1HW225M | J | 2.2 | 50V | Electrolytic | AB |
| C206 | VCKYMN1CY103N | J | 0.01 | 16V | Ceramic | AA |
| C207 | VCEAGA1CW476M | J | 47 | 16V | Electrolytic | AB |
| C208 | VCEAGA1CW476M | J | 47 | 16V | Electrolytic | AB |
| C209 | VCEAGA1HW474M | J | 0.47 | 50V | Electrolytic | AA |
| C210 | VCEAGA1CW476M | J | 47 | 16V | Electrolytic | AB |
| C212 | VCKYMN1CY103N | J | 0.01 | 16V | Ceramic | AA |
| C214 | VCEAGA1HW475M | J | 4.7 | 50V | Electrolytic | AB |
| C221 | VCKYMN1CY103N | J | 0.01 | 16V | Ceramic | AA |

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## MOTHER UNIT (Continued)

### CAPACITORS (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| C301 | VCEAGA1CW476M | J | 47 16V Electrolytic | AB |
| C302 | VCEAGA1CW476M | J | 47 16V Electrolytic | AB |
| C303 | VCEAGA1CW476M | J | 47 16V Electrolytic | AB |
| C304 | VCFYHA1HA104J | J | 0.1 50V M. Polyester | AB |
| C305 | VCEAGA1EW108M | J | 1000 25V Electrolytic | AD |
| C306 | VCFYHA1HA104J | J | 0.1 50V M. Polyester | AB |
| C307 | VCEAGA1EW108M | J | 1000 25V Electrolytic | AD |
| C308 | VCEAGA1VW108M | J | 1000 35V Electrolytic | AD |
| C309 | VCEAGA1HW105M | J | 1 50V Electrolytic | AC |
| C310 | VCFYHA1HA683J | J | 0.068 50V M. Polyester | AC |
| C312 | VCEAGA1HW105M | J | 1 50V Electrolytic | AC |
| C313 | VCFYHA1HA683J | J | 0.068 50V M. Polyester | AC |
| C314 | VCEAGA1HW335M | J | 3.3 50V Electrolytic | AB |
| C315 | VCEAGA1HW335M | J | 3.3 50V Electrolytic | AB |
| C316 | VCEAGA1CW476M | J | 47 16V Electrolytic | AB |
| C317 | VCFYHA1HA823J | J | 0.082 50V M. Polyester | AA |
| C318 | VCEAGA1CW226M | J | 22 16V Electrolytic | AB |
| C319 | VCEAGA1HW474M | J | 0.47 50V Electrolytic | AA |
| C320 | VCEAGA1HW474M | J | 0.47 50V Electrolytic | AA |
| C321 | VCFYHA1HA104J | J | 0.1 50V M. Polyester | AB |
| C322 | VCQYTA1HM222J | J | 2200p 50V Mylar | AA |
| C323 | VCQYTA1HM223J | J | 0.022 50V Mylar | AA |
| C324 | VCQYTA1HM223J | J | 0.022 50V Mylar | AA |
| C325 | VCEAGA1HW105M | J | 1 50V Electrolytic | AC |
| C326 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C328 | VCEAGA1HW225M | J | 2.2 50V Electrolytic | AB |
| C329 | VCEAGA1HW105M | J | 1 50V Electrolytic | AC |
| C332 | VCEAGA1HW105M | J | 1 50V Electrolytic | AC |
| C333 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C334 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C335 | VCQYTA1HM272J | J | 2700p 50V Mylar | AA |
| C336 | VCQYTA1HM272J | J | 2700p 50V Mylar | AA |
| C337 | VCE9AA1CW106M | J | 10 16V Electrolytic (N.P) | AB |
| C338 | VCE9AA1CW106M | J | 10 16V Electrolytic (N.P) | AB |
| C340 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C401 | VCCSMN1HL330J | J | 33p 50V Ceramic | AA |
| C402 | VCEAGA1CW476M | J | 47 16V Electrolytic | AB |
| C403 | VCEAGA1CW226M | J | 22 16V Electrolytic | AB |
| C404 | VCEAGA1HW224T | J | 0.22 50V Electrolytic | AB |
| C405 | VCEAGA1HW224T | J | 0.22 50V Electrolytic | AB |
| C406 | VCEAGA1HW224T | J | 0.22 50V Electrolytic | AB |
| C407 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C408 | VCEAGA1CW476M | J | 47 16V Electrolytic | AB |
| C410 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C411 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C412 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C413 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C414 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C415 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C416 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C417 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C418 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C419 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C420 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C423 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C424 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C425 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C427 | VCCCPA1HH470J | J | 47p 50V Ceramic | AA |
| C430 | VCEAGA1HW225M | J | 2.2 50V Electrolytic | AB |
| C431 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C440 | VCKYMN1HB561K | J | 560p 50V Ceramic | AA |
| C495 | VCCSPA1HL151J | J | 150p 50V Ceramic | AA |
| C501 | VCEAGA1CW108M | J | 1000 16V Electrolytic | AD |
| C502 | VCQYTA1HM103J | J | 0.01 50V Mylar | AA |
| C504 | VCEAGA1VW108M | J | 1000 35V Electrolytic | AD |
| C505 | VCEAGA1HW107M | J | 100 50V Electrolytic | AC |
| C506 | VCCCMN1HH100J | J | 10p 50V Ceramic | AA |
| C507 | VCEACA1HC105M | J | 1 50V Electrolytic | AC |
| C509 | VCQYSG2AA473K | J | 0.047 100V Mylar | AC |
| C510 | VCEAGA1VW108M | J | 1000 35V Electrolytic | AD |
| C511 | VCEACA1HW225M | J | 2.2 50V Electrolytic | AC |
| C512 | VCSATA1VE224K | J | 0.22 35V Tantalum | AC |
| C513 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C601 | VCQYTA1HM333J | J | 0.033 50V Mylar | AA |
| C603 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C604 | VCEAGA2CW106M | J | 10 160V Electrolytic | AC |
| C606 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C607 | VCQYTA1HM153J | J | 0.015 50V Mylar | AA |
| ⚠ C701 | RC-FZ0012CEZZ | J | 0.22 AC250V Mylar | AE |
| ⚠ C702 | RC-KZ0029CEZZ | J | 0.01 AC250V Ceramic | AC |
| C801 | VCCSMN1HL470J | J | 47p 50V Ceramic | AA |
| C802 | VCCSMN1HL470J | J | 47p 50V Ceramic | AA |
| C803 | VCCSMN1HL470J | J | 47p 50V Ceramic | AA |
| C804 | VCCCPA1HH470J | J | 47p 50V Ceramic | AA |
| C805 | VCCCPA1HH150J | J | 15p 50V Ceramic | AA |
| C806 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C807 | VCCCPA1HH100D | J | 10p 50V Ceramic | AA |
| C808 | VCCSMN1HL220J | J | 22p 50V Ceramic | AA |
| C809 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C811 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C812 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C816 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C817 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C1001 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C1002 | VCKYD41CY103N | J | 0.01 16V Ceramic | AA |
| C1003 | VCEAAA1HW104T | J | 0.1 50V Electrolytic | AB |
| C1004 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C1005 | VCFYHA1HA334J | J | 0.33 50V M. Polyester | AC |
| C1006 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C1007 | VCEAGA1AW107M | J | 100 10V Electrolytic | AB |
| C1008 | VCCCPA1HH151J | J | 150p 50V Ceramic | AA |
| C1009 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C1010 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C1011 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |
| C1012 | VCKYMN1CY103N | J | 0.01 16V Ceramic | AA |

# PWB-A DUNTK6801DE06/07
## MOTHER UNIT (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

### CAPACITORS (Continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| C1013 | VCEAGA1HW106M | J | 10 | 50V | Electrolytic | AC |
| C1014 | VCCCPA1HH101J | J | 100p | 50V | Ceramic | AA |
| C1015 | VCCCPA1HH101J | J | 100p | 50V | Ceramic | AA |
| C1016 | VCFYHA1HA104J | J | 0.1 | 50V | M. Polyester | AB |
| C1017 | VCFYHA1HA104J | J | 0.1 | 50V | M. Polyester | AB |
| C1018 | VCKYMN1CY103N | J | 0.01 | 16V | Ceramic | AA |
| C1019 | VCCSMN1HL220J | J | 22p | 50V | Ceramic | AA |
| C1020 | VCCSMN1HL220J | J | 22p | 50V | Ceramic | AA |
| C1021 | VCCSMN1HL220J | J | 22p | 50V | Ceramic | AA |
| C1022 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C1025 | VCQYTA1HM153J | J | 0.015 | 50V | Mylar | AA |
| C1026 | VCEAGA1HW105M | J | 1 | 50V | Electrolytic | AC |
| C1027 | VCEAGA1HW225M | J | 2.2 | 50V | Electrolytic | AB |
| C1030 | VCEAGA1HW475M | J | 4.7 | 50V | Electrolytic | AB |
| C1121 | VCEAGA2AW107M | J | 100 | 100V | Electrolytic | AD |
| C1122 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |
| C1123 | VCEAGA1CW476M | J | 47 | 16V | Electrolytic | AB |
| C1124 | VCEAGA1EW108M | J | 1000 | 25V | Electrolytic | AD |
| C1125 | VCEAGA1CW107M | J | 100 | 16V | Electrolytic | AB |
| C1126 | VCKYPA2HB102K | J | 1000p | 500V | Ceramic | AA |
| C1127 | VCKYPA2HB102K | J | 1000p | 500V | Ceramic | AA |
| C1130 | VCEAGA1HW475M | J | 4.7 | 50V | Electrolytic | AB |

### RESISTORS

| | | | | | | |
|---|---|---|---|---|---|---|
| R201 | VRD-MN2BE333J | J | 33k | 1/8W | Carbon Chip | AA |
| ⚠ R202 | VRG-RL2HB2R2J | J | 2.2 | 1/2W | Fuse Resistor | AB |
| R203 | VRD-RA2HD562J | J | 5.6k | 1/2W | Carbon | AA |
| R204 | VRD-RA2HD562J | J | 5.6k | 1/2W | Carbon | AA |
| R205 | VRD-RA2HD682J | J | 6.8k | 1/2W | Carbon | AA |
| R206 | VRD-MN2BE333J | J | 33k | 1/8W | Carbon Chip | AA |
| R207 | VRD-RA2BE564J | J | 560k | 1/8W | Carbon | AA |
| R210 | VRD-MN2BE104J | J | 100k | 1/8W | Carbon Chip | AA |
| R211 | VRD-MN2BE823J | J | 82k | 1/8W | Carbon Chip | AA |
| R212 | VRD-RA2EE105J | J | 1M | 1/4W | Carbon | AA |
| R213 | VRD-MN2BE681J | J | 680 | 1/8W | Carbon Chip | AA |
| R214 | VRD-MN2BE103J | J | 10k | 1/8W | Carbon Chip | AA |
| R215 | VRD-MN2BE154J | J | 150k | 1/8W | Carbon Chip | AA |
| R216 | VRD-MN2BE393J | J | 39k | 1/8W | Carbon Chip | AA |
| R217 | VRD-MN2BE473J | J | 47k | 1/8W | Carbon Chip | AA |
| R218 | VRD-MN2BE392J | J | 3.9k | 1/8W | Carbon Chip | AA |
| R219 | *See Controls* | | | | | |
| R220 | VRD-RA2BE152J | J | 1.5k | 1/8W | Carbon | AA |
| R223 | VRD-MN2BE221J | J | 220 | 1/8W | Carbon Chip | AA |
| R226 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R227 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R228 | VRD-MN2BE332J | J | 3.3k | 1/8W | Carbon Chip | AA |
| R229 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon | AA |
| R233 | VRD-MN2BE123J | J | 12k | 1/8W | Carbon Chip | AA |
| R234 | *See Controls* | | | | | |
| R235 | VRD-MN2BE222J | J | 2.2k | 1/8W | Carbon Chip | AA |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

### RESISTORS (Continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| R236 | VRD-MN2BE272J | J | 2.7k | 1/8W | Carbon Chip | AA |
| R237 | VRD-RA2EE332J | J | 3.3k | 1/4W | Carbon | AA |
| R238 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R239 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R240 | VRD-MN2BE392J | J | 3.9k | 1/8W | Carbon Chip | AA |
| R243 | VRD-MN2BE153J | J | 15k | 1/8W | Carbon Chip | AA |
| R301 | VRD-MN2BE100J | J | 10 | 1/8W | Carbon Chip | AA |
| R302 | VRD-MN2BE100J | J | 10 | 1/8W | Carbon Chip | AA |
| R303 | VRD-MN2BE101J | J | 100 | 1/8W | Carbon Chip | AA |
| ⚠ R304 | VRG-RL2HB2R2J | J | 2.2 | 1/2W | Fuse Resistor | AB |
| ⚠ R305 | VRG-RL2HB2R2J | J | 2.2 | 1/2W | Fuse Resistor | AB |
| R306 | VRD-MN2BE183J | J | 18k | 1/8W | Carbon Chip | AA |
| R307 | VRD-MN2BE681J | J | 680 | 1/8W | Carbon Chip | AA |
| R308 | VRD-MN2BE102J | J | 1k | 1/8W | Carbon Chip | AA |
| R309 | VRD-MN2BE183J | J | 18k | 1/8W | Carbon Chip | AA |
| R310 | VRD-MN2BE681J | J | 680 | 1/8W | Carbon Chip | AA |
| R311 | VRD-MN2BE102J | J | 1k | 1/8W | Carbon Chip | AA |
| ⚠ R312 | VRG-RF2HB220J | J | 22 | 1/2W | Fuse Resistor | AB |
| R313 | VRD-MN2BE824J | J | 820k | 1/8W | Carbon Chip | AA |
| R314 | VRD-MN2BE153J | J | 15k | 1/8W | Carbon Chip | AA |
| R315 | VRD-MN2BE822J | J | 8.2k | 1/8W | Carbon Chip | AA |
| R316 | VRD-MN2BE153J | J | 15k | 1/8W | Carbon Chip | AA |
| R317 | VRD-MN2BE822J | J | 8.2k | 1/8W | Carbon Chip | AA |
| R318 | VRD-MN2BE123J | J | 12k | 1/8W | Carbon Chip | AA |
| R319 | VRD-MN2BE822J | J | 8.2k | 1/8W | Carbon Chip | AA |
| R320 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R321 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon | AA |
| R322 | VRD-MN2BE224J | J | 220k | 1/8W | Carbon Chip | AA |
| R323 | VRD-MN2BE392J | J | 3.9k | 1/8W | Carbon Chip | AA |
| R324 | VRD-MN2BE392J | J | 3.9k | 1/8W | Carbon Chip | AA |
| R325 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R326 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R327 | VRD-RA2BE122J | J | 1.2k | 1/8W | Carbon | AA |
| R328 | VRD-RA2BE122J | J | 1.2k | 1/8W | Carbon | AA |
| R329 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R330 | VRD-MN2BE101J | J | 100 | 1/8W | Carbon Chip | AA |
| R331 | VRD-RA2BE222J | J | 2.2k | 1/8W | Carbon | AA |
| R332 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R333 | *See Controls* | | | | | |
| R334 | VRD-MN2BE332J | J | 3.3k | 1/8W | Carbon Chip | AA |
| R336 | VRD-MN2BE562J | J | 5.6k | 1/8W | Carbon Chip | AA |
| R337 | VRD-RA2BE563J | J | 56k | 1/8W | Carbon | AA |
| R340 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon | AA |
| R341 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R342 | VRD-MN2BE273J | J | 27k | 1/8W | Carbon Chip | AA |
| R401 | VRD-MN2BE152J | J | 1.5k | 1/8W | Carbon Chip | AA |
| R403 | *See Controls* | | | | | |
| R404 | VRD-MN2BE123J | J | 12k | 1/8W | Carbon Chip | AA |
| R405 | VRD-RA2BE182J | J | 1.8k | 1/8W | Carbon Chip | AA |
| R406 | VRD-MN2BE681J | J | 680 | 1/8W | Carbon Chip | AA |
| R407 | VRD-MN2BE472J | J | 4.7k | 1/8W | Carbon Chip | AA |
| R408 | VRD-MN2BE681J | J | 680 | 1/8W | Carbon Chip | AA |
| R409 | VRD-MN2BE472J | J | 4.7k | 1/8W | Carbon Chip | AA |
| R410 | VRD-MN2BE563J | J | 56k | 1/8W | Carbon Chip | AA |
| R411 | VRD-MN2BE391J | J | 390 | 1/8W | Carbon Chip | AA |

# PWB-A DUNTK6801DE06/07
## MOTHER UNIT (Continued)

### RESISTORS (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R412 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R413 | VRD-MN2BE222J | J | 2.2k 1/8W Carbon Chip | AA |
| R414 | VRD-RA2HD471J | J | 470 1/2W Carbon | AA |
| R415 | VRD-RA2EE224J | J | 220k 1/4W Carbon | AA |
| R416 | *See Controls* | | | |
| R417 | VRD-RA2EE824J | J | 820k 1/4W Carbon | AA |
| R418 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R419 | VRD-MN2BE272J | J | 2.7k 1/8W Carbon Chip | AA |
| R420 | VRD-RA2BE473J | J | 47k 1/8W Carbon | AA |
| R421 | VRD-RA2BE473J | J | 47k 1/8W Carbon | AA |
| R422 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R423 | VRD-MN2BE222J | J | 2.2k 1/8W Carbon Chip | AA |
| R424 | VRD-MN2BE332J | J | 3.3k 1/8W Carbon Chip | AA |
| R425 | VRD-MN2BE152J | J | 1.5k 1/8W Carbon Chip | AA |
| R426 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R427 | VRD-MN2BE153J | J | 15k 1/8W Carbon Chip | AA |
| R428 | VRD-MN2BE472J | J | 4.7k 1/8W Carbon Chip | AA |
| R429 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R430 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R431 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R432 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R433 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R434 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R435 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R437 | VRD-MN2BE153J | J | 15k 1/8W Carbon Chip | AA |
| R438 | VRD-RA2BE153J | J | 15k 1/8W Carbon | AA |
| R439 | VRD-MN2BE153J | J | 15k 1/8W Carbon Chip | AA |
| R442 | VRD-MN2BE823J | J | 82k 1/8W Carbon Chip | AA |
| R443 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R444 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R445 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R446 | VRD-RA2BE473J | J | 47k 1/8W Carbon | AA |
| R447 | VRD-MN2BE224J | J | 220k 1/8W Carbon Chip | AA |
| ⚠ R449 | VRG-RL2HB220J | J | 22 1/2W Fuse Resistor | AB |
| R450 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R451 | VRD-MN2BE102J | J | 1k 1/8W Carbon Chip | AA |
| ⚠ R452 | VRG-RL2HB100J | J | 10 1/2W Fuse Resistor | AB |
| R453 | VRD-MN2BE821J | J | 820 1/8W Carbon Chip | AA |
| R454 | VRD-MN2BE821J | J | 820 1/8W Carbon Chip | AA |
| R455 | VRD-MN2BE102J | J | 1k 1/8W Carbon Chip | AA |
| R456 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R457 | VRD-MN2BE151J | J | 150 1/8W Carbon Chip | AA |
| R458 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| ⚠ R459 | VRG-RL2HB220J | J | 22 1/2W Fuse Resistor | AB |
| R460 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R461 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R462 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R463 | VRD-MN2BE750J | J | 75 1/8W Carbon Chip | AA |
| R464 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R465 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R466 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R467 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R468 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R469 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R470 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R471 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R472 | VRD-MN2BE102J | J | 1k 1/8W Carbon Chip | AA |
| R473 | VRD-MN2BE102J | J | 1k 1/8W Carbon Chip | AA |
| R474 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R475 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R476 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R477 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R478 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R479 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R480 | VRD-MN2BE563J | J | 56k 1/8W Carbon Chip | AA |
| R481 | VRD-MN2BE563J | J | 56k 1/8W Carbon Chip | AA |
| R482 | VRD-MN2BE563J | J | 56k 1/8W Carbon Chip | AA |
| R483 | VRD-MN2BE563J | J | 56k 1/8W Carbon Chip | AA |
| R484 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R485 | VRD-MN2BE183J | J | 18k 1/8W Carbon Chip | AA |
| R486 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R490 | VRD-RA2BE563J | J | 56k 1/8W Carbon | AA |
| R491 | VRD-RA2BE102J | J | 1k 1/8W Carbon | AA |
| R492 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R493 | VRD-MN2BE222J | J | 2.2k 1/8W Carbon Chip | AA |
| R498 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R501 | VRS-VV3DB101J | J | 100 2W Metal Oxide | AA |
| R502 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R503 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R504 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R505 | VRD-MN2BE153J | J | 15k 1/8W Carbon Chip | AA |
| R506 | VRD-MN2BE683J | J | 68k 1/8W Carbon Chip | AA |
| R507 | VRD-RA2HD102J | J | 1k 1/2W Carbon | AA |
| R508 | VRD-RA2BE102J | J | 1k 1/8W Carbon | AA |
| R509 | VRD-MN2BE393J | J | 39k 1/8W Carbon Chip | AA |
| R510 | *See Controls* | | | |
| R511 | VRD-MN2BE333J | J | 33k 1/8W Carbon Chip | AA |
| R512 | VRD-MN2BE562J | J | 5.6k 1/8W Carbon Chip | AA |
| R513 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R514 | *See Controls* | | | |
| R515 | VRD-RA2BE473J | J | 47k 1/8W Carbon | AA |
| R516 | VRD-MN2BE563J | J | 56k 1/8W Carbon Chip | AA |
| R517 | VRD-MN2BE273J | J | 27k 1/8W Carbon Chip | AA |
| R518 | VRD-MN2BE273J | J | 27k 1/8W Carbon Chip | AA |
| R519 | VRD-RA2HD391J | J | 390 1/2W Carbon | AA |
| R520 | VRD-RA2HD2R7J | J | 2.7 1/2W Carbon | AA |
| R521 | VRD-RA2HD2R7J | J | 2.7 1/2W Carbon | AA |
| R522 | VRD-RA2HD2R7J | J | 2.7 1/2W Carbon | AA |
| R523 | VRS-VV3DB221J | J | 220 2W Metal Oxide | AA |
| R524 | VRS-VV3DB271J | J | 270 2W Metal Oxide | AA |
| R525 | VRS-VV3DB821J | J | 820 2W Metal Oxide | AA |
| ⚠ R526 | VRG-RL2HB470J | J | 47 1/2W Fuse Resistor | AB |
| R527 | VRD-MN2BE224J | J | 220k 1/8W Carbon Chip | AA |
| R528 | VRD-MN2BE273J | J | 27k 1/8W Carbon Chip | AA |
| R529 | VRD-MN2BE123J | J | 12k 1/8W Carbon Chip | AA |
| R530 | VRD-MN2BE123J | J | 12k 1/8W Carbon Chip | AA |
| R531 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |

# PWB-A DUNTK6801DE06/07
## MOTHER UNIT (Continued)

### RESISTORS (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R541 | VRD-RA2EE223J | J | 22k 1/4W Carbon | AA |
| R542 | VRD-RA2EE223J | J | 22k 1/4W Carbon | AA |
| R543 | VRD-RA2EE223J | J | 22k 1/4W Carbon | AA |
| R601 | VRD-RA2HD121J | J | 120 1/2W Carbon | AA |
| R602 | *See Controls* | | | |
| R603 | VRD-MN2BE222J | J | 2.2k 1/8W Carbon Chip | AA |
| R604 | VRD-RA2BE473J | J | 47k 1/8W Carbon | AA |
| R605 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R606 | VRD-RA2EE820J | J | 82 1/4W Carbon | AA |
| R607 | VRD-MN2BE392J | J | 3.9k 1/8W Carbon Chip | AA |
| R608 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R609 | VRD-RU2EE471J | J | 470 1/4W Carbon | AA |
| R610 | VRD-RA2HD332J | J | 3.3k 1/2W Carbon | AA |
| R611 | VRD-RA2BE273J | J | 27k 1/8W Carbon | AA |
| R612 | VRD-MN2BE562J | J | 5.6k 1/8W Carbon Chip | AA |
| R613 | VRD-RA2BE473J | J | 47k 1/8W Carbon | AA |
| R614 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R615 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R616 | VRD-RA2EE564J | J | 560k 1/4W Carbon | AA |
| R617 | VRD-RA2EE334J | J | 330k 1/4W Carbon | AA |
| R618 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R620 | VRD-RA2HD820J | J | 82 1/2W Carbon | AA |
| R621 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R623 | VRD-MN2BE100J | J | 10 1/8W Carbon Chip | AA |
| R625 | VRD-MN2BE153J | J | 15k 1/8W Carbon Chip | AA |
| R626 | VRD-MN2BE472J | J | 4.7k 1/8W Carbon Chip | AA |
| R801 | VRD-MN2BE392J | J | 3.9k 1/8W Carbon Chip | AA |
| R802 | VRD-MN2BE392J | J | 3.9k 1/8W Carbon Chip | AA |
| R803 | VRD-MN2BE392J | J | 3.9k 1/8W Carbon Chip | AA |
| R804 | VRD-MN2BE121J | J | 120 1/8W Carbon Chip | AA |
| R805 | VRD-RA2HD471J | J | 470 1/2W Carbon | AA |
| R806 | VRD-MN2BE121J | J | 120 1/8W Carbon Chip | AA |
| R807 | VRD-RA2HD471J | J | 470 1/2W Carbon | AA |
| R808 | VRD-MN2BE121J | J | 120 1/8W Carbon Chip | AA |
| R809 | VRD-RA2HD471J | J | 470 1/2W Carbon | AA |
| R811 | VRD-MN2BE272J | J | 2.7k 1/8W Carbon Chip | AA |
| R812 | VRD-MN2BE272J | J | 2.7k 1/8W Carbon Chip | AA |
| R813 | VRD-MN2BE562J | J | 5.6k 1/8W Carbon Chip | AA |
| R814 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R815 | VRD-MN2BE750J | J | 75 1/8W Carbon Chip | AA |
| R818 | VRD-MN2BE102J | J | 1k 1/8W Carbon Chip | AA |
| R819 | VRD-RA2BE102J | J | 1k 1/8W Carbon | AA |
| R822 | VRD-MN2BE273J | J | 27k 1/8W Carbon Chip | AA |
| R823 | VRD-MN2BE472J | J | 4.7k 1/8W Carbon Chip | AA |
| R824 | VRD-MN2BE122J | J | 1.2k 1/8W Carbon Chip | AA |
| R825 | VRD-MN2BE560J | J | 56 1/8W Carbon Chip | AA |
| R1001 | VRD-RA2HD101J | J | 100 1/2W Carbon | AA |
| R1002 | VRD-MN2BE102J | J | 1k 1/8W Carbon Chip | AA |
| R1003 | VRD-RA2BE472J | J | 4.7k 1/8W Carbon | AA |
| R1004 | VRD-RA2BE102J | J | 1k 1/8W Carbon | AA |
| R1008 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R1009 | VRD-MN2BE683J | J | 68k 1/8W Carbon Chip | AA |

### RESISTORS (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R1010 | VRD-RA2HD820J | J | 82 1/2W Carbon | AA |
| R1011 | VRD-MN2BE102J | J | 1k 1/8W Carbon Chip | AA |
| R1012 | VRD-MN2BE683J | J | 68k 1/8W Carbon Chip | AA |
| R1013 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1014 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1015 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1016 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1017 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1018 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1019 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1020 | VRD-MN2BE101J | J | 100 1/8W Carbon Chip | AA |
| R1021 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R1022 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R1023 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R1024 | VRD-MN2BE104J | J | 100k 1/8W Carbon Chip | AA |
| R1025 | VRD-RA2BE563J | J | 56k 1/8W Carbon | AA |
| R1026 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R1027 | VRD-MN2BE332J | J | 3.3k 1/8W Carbon Chip | AA |
| R1028 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R1029 | VRD-MN2BE224J | J | 220k 1/8W Carbon Chip | AA |
| R1030 | VRD-RA2EE105J | J | 1M 1/4W Carbon | AA |
| R1031 | VRD-MN2BE274J | J | 270k 1/8W Carbon Chip | AA |
| R1032 | VRD-MN2BE562J | J | 5.6k 1/8W Carbon Chip | AA |
| R1033 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R1034 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R1035 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R1036 | VRD-MN2BE333J | J | 33k 1/8W Carbon Chip | AA |
| R1037 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R1038 | VRD-RA2BE332J | J | 3.3k 1/8W Carbon | AA |
| R1039 | VRD-MN2BE123J | J | 12k 1/8W Carbon Chip | AA |
| R1040 | VRD-MN2BE682J | J | 6.8k 1/8W Carbon Chip | AA |
| R1041 | VRD-MN2BE822J | J | 8.2k 1/8W Carbon Chip | AA |
| R1042 | VRD-MN2BE123J | J | 12k 1/8W Carbon Chip | AA |
| R1043 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R1044 | VRD-MN2BE562J | J | 5.6k 1/8W Carbon Chip | AA |
| R1045 | VRD-MN2BE332J | J | 3.3k 1/8W Carbon Chip | AA |
| R1046 | VRD-MN2BE822J | J | 8.2k 1/8W Carbon Chip | AA |
| R1047 | VRD-MN2BE332J | J | 3.3k 1/8W Carbon Chip | AA |
| R1048 | VRD-MN2BE392J | J | 3.9k 1/8W Carbon Chip | AA |
| R1049 | VRD-MN2BE222J | J | 2.2k 1/8W Carbon Chip | AA |
| R1050 | VRD-MN2BE123J | J | 12k 1/8W Carbon Chip | AA |
| R1051 | VRD-MN2BE273J | J | 27k 1/8W Carbon Chip | AA |
| R1052 | VRD-MN2BE223J | J | 22k 1/8W Carbon Chip | AA |
| R1053 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R1054 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R1056 | VRD-MN2BE103J | J | 10k 1/8W Carbon Chip | AA |
| R1058 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R1059 | VRD-MN2BE473J | J | 47k 1/8W Carbon Chip | AA |
| R1060 | VRS-VV3DB153J | J | 15k 2W Metal Oxide | AA |
| R1061 | VRD-RA2BE153J | J | 15k 1/8W Carbon | AA |
| R1062 | VRD-MN2BE333J | J | 33k 1/8W Carbon Chip | AA |
| R1063 | VRD-RA2BE333J | J | 33k 1/8W Carbon | AA |
| R1064 | VRD-MN2BE684J | J | 680k 1/8W Carbon Chip | AA |
| R1065 | VRD-MN2BE153J | J | 15k 1/8W Carbon Chip | AA |
| R1066 | VRD-MN2BE123J | J | 12k 1/8W Carbon Chip | AA |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

# PWB-A DUNTK6801DE06/07
## MOTHER UNIT (Continued)

### RESISTORS (Continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| R1067 | VRD-MN2BE472J | J | 4.7k | 1/8W | Carbon Chip | AA |
| R1068 | VRD-MN2BE822J | J | 8.2k | 1/8W | Carbon Chip | AA |
| R1069 | VRD-MN2BE822J | J | 8.2k | 1/8W | Carbon Chip | AA |
| R1070 | VRD-MN2BE472J | J | 4.7k | 1/8W | Carbon Chip | AA |
| R1071 | VRD-MN2BE472J | J | 4.7k | 1/8W | Carbon Chip | AA |
| R1072 | VRD-RA2BE681J | J | 680 | 1/8W | Carbon | AA |
| R1073 | VRD-RA2BE681J | J | 680 | 1/8W | Carbon | AA |
| R1074 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R1075 | VRD-MN2BE153J | J | 15k | 1/8W | Carbon Chip | AA |
| R1076 | VRD-MN2BE333J | J | 33k | 1/8W | Carbon Chip | AA |
| R1077 | VRD-MN2BE102J | J | 1k | 1/8W | Carbon Chip | AA |
| R1078 | VRD-MN2BE152J | J | 1.5k | 1/8W | Carbon Chip | AA |
| R1079 | VRD-MN2BE182J | J | 1.8k | 1/8W | Carbon Chip | AA |
| R1080 | VRD-RA2BE272J | J | 2.7k | 1/8W | Carbon | AA |
| R1081 | VRD-MN2BE332J | J | 3.3k | 1/8W | Carbon Chip | AA |
| R1082 | VRD-RA2BE473J | J | 47k | 1/8W | Carbon | AA |
| R1083 | VRD-MN2BE472J | J | 4.7k | 1/8W | Carbon Chip | AA |
| R1084 | VRD-RA2BE563J | J | 56k | 1/8W | Carbon | AA |
| R1085 | VRD-RA2BE563J | J | 56k | 1/8W | Carbon | AA |
| R1086 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R1087 | VRD-MN2BE822J | J | 8.2k | 1/8W | Carbon Chip | AA |
| R1088 | VRD-MN2BE393J | J | 39k | 1/8W | Carbon Chip | AA |
| R1089 | VRD-RA2BE822J | J | 8.2k | 1/8W | Carbon | AA |
| R1090 | VRD-RA2BE473J | J | 47k | 1/8W | Carbon | AA |
| R1091 | VRD-MN2BE473J | J | 47k | 1/8W | Carbon Chip | AA |
| R1093 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R1094 | VRD-MN2BE392J | J | 3.9k | 1/8W | Carbon Chip | AA |
| R1095 | VRD-MN2BE683J | J | 68k | 1/8W | Carbon Chip | AA |
| R1096 | VRD-MN2BE562J | J | 5.6k | 1/8W | Carbon Chip | AA |
| R1097 | VRD-MN2BE332J | J | 3.3k | 1/8W | Carbon Chip | AA |
| R1098 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R1121 | VRS-VV3DB472J | J | 4.7k | 2W | Metal Oxide | AA |
| R1122 | VRS-VV3DB272J | J | 2.7k | 2W | Metal Oxide | AA |
| R1123 | VRD-RA2HD562J | J | 5.6k | 1/2W | Carbon | AA |
| R1124 | VRD-RA2HD151J | J | 150 | 1/2W | Carbon | AA |
| R1125 | VRD-MN2BE332J | J | 3.3k | 1/8W | Carbon Chip | AA |
| R1126 | VRD-MN2BE472J | J | 4.7k | 1/8W | Carbon Chip | AA |
| R1127 | VRD-MN2BE223J | J | 22k | 1/8W | Carbon Chip | AA |
| R1128 | VRD-MN2BE563J | J | 56k | 1/8W | Carbon Chip | AA |
| R1129 | VRD-MN2BE333J | J | 33k | 1/8W | Carbon Chip | AA |
| R1130 | VRD-MN2BE333J | J | 33k | 1/8W | Carbon Chip | AA |
| R1131 | VRD-MN2BE473J | J | 47k | 1/8W | Carbon Chip | AA |
| R1133 | VRD-RA2HD181J | J | 180 | 1/2W | Carbon | AA |
| R1134 | VRD-MN2BE224J | J | 220k | 1/8W | Carbon Chip | AA |
| R1135 | VRD-MN2BE103J | J | 10k | 1/8W | Carbon Chip | AA |
| R1136 | VRD-MN2BE103J | J | 10k | 1/8W | Carbon Chip | AA |
| R1137 | VRD-MN2BE103J | J | 10k | 1/8W | Carbon Chip | AA |
| R1138 | VRD-MN2BE393J | J | 39k | 1/8W | Carbon Chip | AA |
| R1139 | VRD-MN2BE564J | J | 560k | 1/8W | Carbon Chip | AA |
| R1150 | VRD-MN2BE473J | J | 47k | 1/8W | Carbon Chip | AA |
| R1151 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R1152 | VRD-MN2BE681J | J | 680 | 1/8W | Carbon Chip | AA |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

### SWITCHES

| | | | | |
|---|---|---|---|---|
| S401 | QSW-B0015CEZZ | J | Service Switch | AC |
| S501 | QSW-B0018CEZZ | J | Vertical Center Adjust. | AD |

### MISCELLANEOUS PARTS

| | | | | |
|---|---|---|---|---|
| FB1001 | RBLN-0036CEZZ | J | Ferrite Bead | AB |
| ⚠ J401 | QTANJ0632CEZZ | J | Jack, A/V | AH |
| ⚠ J402 | QSOCD0408CEZZ | J | Socket | AG |
| | QPLGN0213GEZZ | J | Plug 2-pin, (XS) (TD) | AB |
| | QPLGN0278GEZZ | J | Plug 2-pin, (XV) (TB) (CC) (CP) (CS) | AA |
| | QPLGN0304CEZZ | J | Plug 3-pin, (AB) (A) | AB |
| | QPLGN0313GEZZ | J | Plug 3-pin, (TC) | AB |
| | QPLGN0378GEZZ | J | Plug 3-pin, (SV) | AB |
| | QPLGN0413GEZZ | J | Plug 4-pin, (S) | AB |
| | QPLGN0478GEZZ | J | Plug 4-pin, (TA) | AB |
| | QPLGN0513GEZZ | J | Plug 5-pin, (XA) | AB |
| | QPLGN0578GEZZ | J | Plug 5-pin, (KY) | AB |
| | QPLGN0613GEZZ | J | Plug 6-pin, (VO) | AB |
| | QPLGN0678GEZZ | J | Plug 6-pin, (O) | AB |
| | QPLGN0878GEZZ | J | Plug 8-pin, (W) (SY) | AC |
| | QPLGN0913GEZZ | J | Plug 9-pin, (RS) | AB |

—— End of PWB-A ——

# PWB-B DUNTK7835DE01/02
## DEF UNIT

### INTEGRATED CIRCUITS

| | | | | |
|---|---|---|---|---|
| IC601 | VHiLM358P//-1 | J | LM358P | AC |
| IC602 | VHiLM358P//-1 | J | LM358P (29AN1) | AC |
| ⚠ IC701 | VHiSTRS6309-1 | J | | AU |
| ⚠ IC702 | RH-FX0012CEZZ | J | | AF |
| IC703 | VHiSE120N//-1 | J | SE120N | AG |
| IC2603 | VHiTA7812S/-1 | J | TA7812S | AD |

### TRANSISTORS

| | | | | |
|---|---|---|---|---|
| ⚠ Q605 | VS2SD1910//2E | J | 2SD1910 | AK |
| Q611 | VS2SC3198-G-1 | J | 2SC3198 (G) (29AN1) | AA |
| Q613 | VS2SC3198-G-1 | J | 2SC3198 (G) (29AN1) | AA |
| Q614 | VS2SC3198-G-1 | J | 2SC3198 (G) (29AN1) | AA |
| ⚠ Q615 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| ⚠ Q701 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| ⚠ Q2601 | VSMSD1555//1E | J | MSD1555 (25AN1) | AL |
| ⚠ Q2601 | VS2SC3886A/1E | J | 2SC3886 (A) (29AN1) | AP |
| Q2602 | VS2SC3328Y/1E | J | 2SC3328 (Y) | AD |
| Q2603 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q2604 | VS2SC1827//2E | J | 2SC1827 (29AN1) | AF |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

# PWB-B DUNTK7835DE01/02
## DEF UNIT (Continued)

### DIODES

| | | | | |
|---|---|---|---|---|
| D607 | VHD1SS119//1E | J | 1SS119 (29AN1) | AA |
| D608 | VHD1SS119//1E | J | 1SS119 (29AN1) | AA |
| D609 | RH-DX0130CEZZ | J | | AE |
| D614 | VHD1SS119//1E | J | 1SS119 (29AN1) | AA |
| D615 | VHD1SS119//1E | J | 1SS119 | AA |
| D616 | VHD1SS119//1E | J | 1SS119 | AA |
| D617 | VHD1SS119//1E | J | 1SS119 | AA |
| ⚠ D619 | VHD1SS119//1E | J | 1SS119 | AA |
| ⚠ D620 | VHD1SS119//1E | J | 1SS119 | AA |
| ⚠ D621 | RH-EX0051CEZZ | J | Zener Diode | AB |
| ⚠ D701 | RH-DX0336CEZZ | J | | AH |
| ⚠ D707 | RH-DX0202CEZZ | J | | AD |
| ⚠ D708 | VHD1SS119//1E | J | 1SS119 | AA |
| ⚠ D710 | RH-DX0164CEZZ | J | | AC |
| D711 | RH-DX0382CEZZ | J | | AD |
| D712 | RH-DX0243CEZZ | J | | AF |
| D714 | RH-DX0243CEZZ | J | | AF |
| ⚠ D715 | RH-EX0152CEZZ | J | Zener Diode | AE |
| D730 | RH-DX0027CEZZ | J | (29AN1) | AE |
| D2601 | RH-DX0229CEZZ | J | (29AN1) | AF |
| D2602 | RH-DX0255CEZZ | J | (29AN1) | AC |
| D2603 | RH-DX0062CEZZ | J | | AD |
| D2604 | RH-DX0073CEZZ | J | | AD |
| D2605 | RH-DX0127CEZZ | J | | AC |
| D2606 | RH-DX0130CEZZ | J | | AE |
| ⚠ VA701 | RH-VX0022CEZZ | J | Varistor | AD |

### THERMISTORS

| | | | | |
|---|---|---|---|---|
| TH601 | RH-HZ0006CEZZ | J | Thermistor | AB |
| TH602 | RH-HZ0005CEZZ | J | Thermistor (29AN1) | AB |

### PACKAGED CIRCUIITS

| | | | | |
|---|---|---|---|---|
| ⚠ PR701 | RMPTP0062CEZZ | J | Positive Coeffcient Thermistor | AH |
| ⚠ R728 | RR-DZ0013CEZZ | J | Resistor | AD |

### COILS AND TRANSFORMERS

| | | | | |
|---|---|---|---|---|
| L601 | VP-CF390K0000 | J | 39μH | AB |
| L602 | RCiLZ0797CEZZ | J | Ceramic Filter (25AN1) | AK |
| L602 | RCiLZ0821CEZZ | J | Ceramic Filter (29AN1) | AL |
| L603 | RCiLZ0591CEZZ | J | Ceramic Filter (29AN1) | AF |
| L604 | RCiLZ0699CEZZ | J | Ceramic Filter | AL |
| L605 | RCiLP0087CEZZ | J | Ceramic Filter | AE |
| L606 | RCiLZ0593CEZZ | J | Ceramic Filter | AH |
| L711 | RCiLP0106CEZZ | J | Ceramic Filter | AE |
| L712 | RCiLP0106CEZZ | J | Ceramic Filter | AE |
| L713 | RCiLP0106CEZZ | J | Ceramic Filter | AE |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

### COILS AND TRANSFORMERS (Continued)

| | | | | |
|---|---|---|---|---|
| ⚠ L2701 | RCiLF0166CEZZ | J | Ceramic Filter | AQ |
| T601 | RTRNZ0343CEZZ | J | Transformer | AG |
| ⚠ T602 | RTRNF1892CEZZ | J | H-Volt Transformer (25AN1) | BD |
| ⚠ T602 | RTRNF1896CEZZ | J | H-Volt Transformer (29AN1) | BD |
| ⚠ T2701 | RTRNZ0505CEZZ | J | Transformer | BA |

### CONTROLS

| | | | | |
|---|---|---|---|---|
| R632 | RVR-M4342GEZZ | J | 68k (B) Horiz.-Size (29AN1) | AB |
| R644 | RVR-B5265CEZZ | J | 10k (B) Side-Pin (29AN1) | AB |

### CAPACITORS

| | | | | |
|---|---|---|---|---|
| C602 | VCKYPA2HB472K | J | 4700p 500V Ceramic | AB |
| C605 | VCKYPA1HB102K | J | 1000p 50V Ceramic | AA |
| C608 | VCFPPD2DB224J | J | 0.22 200V M. Polyester (25AN1) | AE |
| C608 | VCFPPD2DB474J | J | 0.47 200V M. Polyester (29AN1) | AE |
| ⚠ C609 | VCFPPD3CA562H | J | 5600p 1600V M. Polyester (25AN1) | AE |
| ⚠ C609 | VCFPPD3CA822H | J | 8200p 1600V M. Polyester (29AN1) | AE |
| C610 | VCFPPD3CA472H | J | 4700p 1600V M. Polyester (25AN1) | AD |
| C610 | VCFPPD3CA822H | J | 8200p 1600V M. Polyester (29AN1) | AE |
| C611 | VCFPPD3CA472H | J | 4700p 1600V M. Polyester (29AN1) | AD |
| C612 | VCKYPH3DB561K | J | 560p 2000V Ceramic (29AN1) | AC |
| C613 | VCQPSC2JA393K | J | 0.039 630V Mylar (29AN1) | AB |
| C614 | VCFYHA1HA104J | J | 0.1 50V M. Polyester | AB |
| C615 | VCFPPD2DB474J | J | 0.47 200V M. Polyester | AE |
| ⚠ C616 | VCFPPC3CA152H | J | 1500p 1600V M. Polyester (25AN1) | AD |
| ⚠ C616 | VCFPPD3CA272H | J | 2700p 1600V M. Polyester (29AN1) | AE |
| ⚠ C617 | VCFPPD3CA222H | J | 2200p 1600V M. Polyester | AE |
| C618 | VCKYPA2HB102K | J | 1000p 500V Ceramic | AA |
| C619 | VCEAGA2EW336M | J | 33 250V Electrolytic | AD |
| C620 | VCKYPA2HB102K | J | 1000p 500V Ceramic | AA |
| C621 | VCEAGA1VW108M | J | 1000 35V Electrolytic | AD |
| C622 | VCFYHA1HA104J | J | 0.1 50V M. Polyester | AB |
| C623 | VCE9RH1HW475K | J | 4.7 50V Electrolytic (N.P.) (29AN1) | AF |
| C624 | VCEAGA1EW107M | J | 100 25V Electrolytic | AD |
| C625 | VCKYPA1HB822K | J | 8200p 50V Ceramic | AA |
| C631 | VCEAGA1HW104M | J | 0.1 50V Electrolytic | AA |

# PWB-B DUNTK7835DE01/02
## DEF UNIT (Continued)

### CAPACITORS (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| C632 | VCQYTA1HM332J | J | 3300p 50V Mylar | AA |
| C633 | VCEAGA1HW225M | J | 2.2 50V Electrolytic | AB |
| C634 | VCQYTA1HM103J | J | 0.01 50V Mylar | AA |
| C635 | VCEAGA1HM335M | J | 3.3 50V Electrolytic | AB |
| C636 | VCE9AA1CW106M | J | 10 16V Electrolytic (N.P.) (29AN1) | AB |
| C637 | VCEAGA1HW104M | J | 0.1 50V Electrolytic | AA |
| C650 | VCEAGA1CW337M | J | 330 16V Electrolytic (29AN1) | AC |
| C652 | VCEAGA1EW107M | J | 100 25V Electrolytic (29AN1) | AD |
| C653 | RC-EZ0322CEZZ | J | 1000 250V Electrolytic | AE |
| C654 | VCQYTA1HM682J | J | 6800p 50V Mylar | AB |
| C655 | VCEAAA1HM104T | J | 0.1 50V Electrolytic | AB |
| C656 | VCEAGA1CW336M | J | 33 16V Electrolytic | AB |
| C657 | RC-KZ0029CEZZ | J | 0.01 AC250V Ceramic | AC |
| C658 | VCFYSB2EB224K | J | 0.22 250V M. Polyester | AD |
| C659 | VCEAGA1HW106M | J | 10 50V Electrolytic | AC |
| C660 | VCQYTA1HM333J | J | 0.033 50V Mylar | AA |
| ⚠ C661 | VCEAGA0JW337M | J | 330 6.3V Electrolytic | AB |
| ⚠ C662 | VCEAGA1EW477M | J | 470 25V Electrolytic | AD |
| C663 | VCEAGA1CW337M | J | 330 16V Electrolytic | AC |
| ⚠ C703 | RC-EZ0358CEZZ | J | 680 400V Electrolytic | AX |
| ⚠ C704 | RC-KZ0029CEZZ | J | 0.01 AC250V Ceramic | AC |
| ⚠ C705 | RC-KZ0029CEZZ | J | 0.01 AC250V Ceramic | AC |
| ⚠ C706 | VCEAGA1HW227M | J | 220 50V Electrolytic | AC |
| ⚠ C707 | VCQYTA1HM222J | J | 2200p 50V Mylar | AA |
| ⚠ C708 | RC-KZ0024CEZZ | J | 1000p 2kV Ceramic | AC |
| ⚠ C710 | VCSATA1VE106K | J | 10 35V Tantalum | AE |
| ⚠ C711 | VCKYPA2HB102K | J | 1000p 500V Ceramic | AA |
| ⚠ C712 | VCEAGA1EW107M | J | 100 25V Electrolytic | AD |
| ⚠ C713 | VCQPSC2JA333K | J | 0.033 630V Mylar | AB |
| C714 | VCKYPH3DB561K | J | 560p 2000V Ceramic | AC |
| ⚠ C717 | VCFYHA1HA563J | J | 0.056 50V M. Polyester | AB |
| ⚠ C719 | VCFYHA1HA104J | J | 0.1 50V M. Polyester | AB |
| ⚠ C720 | RC-KZ0178CEZZ | J | 2200p 4kV Ceramic | AD |
| C722 | RC-KZ0024CEZZ | J | 1000p 2kV Ceramic | AC |
| C723 | VCKYPA2HB102K | J | 1000p 500V Ceramic | AA |
| C725 | VCKYPA2HB102K | J | 1000p 500V Ceramic | AA |
| C726 | RC-EZ0070CEZZ | J | 330 160V Electrolytic | AH |
| C727 | RC-EZ0322CEZZ | J | 1000 250V Electrolytic | AE |
| C728 | RC-EZ0322CEZZ | J | 1000 250V Electrolytic | AE |
| C730 | RC-EZ0069CEZZ | J | 220 160V Electrolytic | AG |
| C731 | RC-EZ0322CEZZ | J | 1000 250V Electrolytic | AE |
| C732 | RC-EZ0322CEZZ | J | 1000 250V Electrolytic | AE |
| C733 | RC-KZ0029CEZZ | J | 0.01 AC250V Ceramic | AC |
| ⚠ C735 | VCFYHA1HA104J | J | 0.1 50V M. Polyester | AB |
| C2601 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2603 | VCKYPA2HB221K | J | 220p 500V Ceramic | AA |
| C2604 | VCEAGA1EW227M | J | 220 25V Electrolytic | AC |
| C2606 | VCFPPC2DB334J | J | 0.33 200V M. Polyester (29AN1) | AE |
| C2607 | VCFPPC2DB274J | J | 0.27 200V M. Polyester (25AN1) | AE |
| C2607 | VCFPPC2DB334J | J | 0.33 200V M. Polyester (29AN1) | AE |
| ⚠ C2701 | RC-FZ0010GEZZ | J | 0.1 250V M. Polyester | AE |
| ⚠ C2702 | VCFYSB2EB224K | J | 0.22 250V M. Polyester | AD |

### RESISTORS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R619 | VRD-RA2HD331J | J | 330 1/2W Carbon | AA |
| R622 | VRD-RA2BE124J | J | 120k 1/8W Carbon | AA |
| R624 | VRD-RA2EE125J | J | 1.2M 1/4W Carbon | AA |
| R625 | VRD-RA2EE564J | J | 560k 1/4W Carbon | AA |
| R627 | VRD-RA2BE564J | J | 560k 1/8W Carbon | AA |
| R628 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| ⚠ R631 | VRG-RF2EB470J | J | 47 1/4W Carbon | AB |
| R633 | VRD-RA2BE333J | J | 33k 1/8W Carbon | AA |
| R634 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R635 | VRD-RA2EE103J | J | 10k 1/4W Carbon | AA |
| R636 | VRD-RA2BE562J | J | 5.6k 1/8W Carbon | AA |
| R637 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R638 | VRD-RA2BE123J | J | 12k 1/8W Carbon | AA |
| R639 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R640 | VRD-RA2EE473J | J | 47k 1/4W Carbon | AA |
| R641 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R642 | VRD-RA2BE102J | J | 1k 1/8W Carbon | AA |
| R643 | VRD-RA2BE102J | J | 1k 1/8W Carbon | AA |
| R645 | VRD-RA2EE152J | J | 1.5k 1/4W Carbon | AA |
| R651 | VRD-RA2EE332J | J | 3.3k 1/4W Carbon | AA |
| ⚠ R655 | VRG-RF2EB470J | J | 47 1/4W Carbon (29AN1) | AB |
| R656 | VRD-RA2BE274J | J | 270k 1/8W Carbon | AA |
| R657 | VRD-RA2BE274J | J | 270k 1/8W Carbon | AA |
| R658 | VRD-RA2BE274J | J | 270k 1/8W Carbon | AA |
| R659 | VRD-RA2BE274J | J | 270k 1/8W Carbon | AA |
| R661 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R664 | VRD-RA2EE122J | J | 1.2k 1/4W Carbon | AA |
| R665 | VRD-RA2BE123J | J | 12k 1/8W Carbon | AA |
| R666 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R667 | VRD-RA2BE393J | J | 39k 1/8W Carbon | AA |
| R668 | VRD-RA2HD102J | J | 1k 1/2W Carbon | AA |
| R669 | VRD-RA2HD152J | J | 1.5k 1/2W Carbon | AA |
| R670 | VRD-RA2HD152J | J | 1.5k 1/2W Carbon | AA |
| R671 | VRS-SU2HB102J | J | 1k 1/2W Metal Oxide | AA |
| R672 | VRD-RA2EE393J | J | 39k 1/4W Carbon | AA |
| R673 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R674 | VRD-RA2HD102J | J | 1k 1/2W Carbon | AA |
| R675 | VRD-RA2EE103J | J | 10k 1/4W Carbon | AA |
| R676 | VRD-RA2EE101J | J | 100 1/4W Carbon | AA |
| R677 | VRN-VV3LB1R8J | J | 1.8 3W Metal Film (25AN1) | AC |
| R677 | VRN-VV3LB2R2J | J | 2.2 3W Metal Film (29AN1) | AC |

# PWB-B DUNTK7835DE01/02
## DEF UNIT (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| | | | **RESISTORS (Continued)** | |
| R678 | VRS-VV3LB472J | J | 4.7k 3W Metal Oxide | AB |
| R682 | VRD-RA2BE123J | J | 12k 1/8W Carbon | AA |
| R683 | VRD-RA2BE153J | J | 15k 1/8W Carbon | AA |
| R684 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R685 | VRD-RA2EE182J | J | 1.8k 1/4W Carbon | AA |
| R686 | VRD-RA2EE101J | J | 100 1/4W Carbon | AA |
| ⚠ R691 | VRN-VV3DB1R0J | J | 1 2W Metal Film | AB |
| ⚠ R692 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| ⚠ R693 | VRD-RA2BE272J | J | 2.7k 1/8W Carbon | AA |
| R694 | VRS-VV3DB220J | J | 22 2W Metal Oxide | AA |
| ⚠ R701 | RR-WZ0139CEZZ | J | 2.2 15W Cement | AE |
| ⚠ R702 | RR-WZ0139CEZZ | J | 2.2 15W Cement | AE |
| ⚠ R703 | VRD-RA2HD391J | J | 390 1/2W Carbon | AA |
| ⚠ R705 | VRD-RA2HD564J | J | 560k 1/2W Carbon | AA |
| ⚠ R710 | RR-WZ0140CEZZ | J | 0.22 3W Cement | AC |
| ⚠ R711 | VRW-KX3HC180K | J | 18 5W Cement | AC |
| ⚠ R713 | VRD-RA2HD154J | J | 150k 1/2W Carbon | AA |
| ⚠ R714 | VRD-RA2HD154J | J | 150k 1/2W Carbon | AA |
| ⚠ R717 | VRS-SV3LB333J | J | 33k 3W Metal Oxide | AC |
| ⚠ R718 | VRS-SV3LB390J | J | 39 3W Metal Oxide | AC |
| ⚠ R722 | VRD-RA2HD821J | J | 820 1/2W Carbon | AA |
| ⚠ R724 | VRC-UA2HG825M | J | 8.2M 1/2W Solid | AA |
| ⚠ R725 | VRC-UA2HG825M | J | 8.2M 1/2W Solid | AA |
| R726 | VRD-RA2HD223J | J | 22k 1/2W Carbon | AA |
| R727 | VRN-VV3DB1R2J | J | 1.2 2W Metal Film | AA |
| ⚠ R729 | VRD-RA2HD471J | J | 470 1/2W Carbon | AA |
| ⚠ R730 | VRD-RA2HD564J | J | 560k 1/2W Carbon | AA |
| R731 | VRD-RA2HD470J | J | 47 1/2W Carbon | AA |
| ⚠ R733 | VRG-RF2EB1R0J | J | 1 1/4W Fuse Resistor | AB |
| ⚠ R735 | VRD-RA2HD121J | J | 120 1/2W Carbon | AA |
| R736 | VRN-KT3LB1R5J | J | 1.5 3W Ceramic (29AN1) | AC |
| R740 | VRN-VV3DB1R2J | J | 1.2 2W Metal Film | AA |
| R2601 | VRD-RA2HD470J | J | 47 1/2W Carbon | AA |
| R2602 | VRD-RA2HD820J | J | 82 1/2W Carbon | AA |
| R2603 | VRW-KX3HC150K | J | 15 5W Cement (29AN1) | AD |
| R2603 | VRW-KX3HC470K | J | 47 5W Cement (25AN1) | AC |
| R2604 | VRD-RA2EE221J | J | 220 1/4W Carbon | AA |
| R2605 | VRD-RA2EE471J | J | 470 1/4W Carbon | AA |
| R2606 | VRD-RA2EE102J | J | 1k 1/4W Carbon | AA |
| R2607 | VRD-RA2BE101J | J | 100 1/8W Carbon | AA |
| R2608 | VRD-RA2BE472J | J | 4.7k 1/8W Carbon | AA |
| R2609 | VRS-VV3DB561J | J | 560 2W Metal Oxide (29AN1) | AA |
| R2610 | VRN-VV3DB4R7J | J | 4.7 2W Metal Film (29AN1) | AB |
| R2611 | VRD-RA2EE222J | J | 2.2k 1/4W Carbon | AA |
| ⚠ R2612 | VRG-RF2HB220J | J | 22 1/2W Fuse Resistor | AB |
| R2613 | VRS-VV3DB680J | J | 68 2W Metal Oxide | AA |
| R2614 | RR-WZ0141CEZZ | J | 3.3 15W Cement | AE |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| | | | **RESISTORS (Continued)** | |
| R2615 | VRS-VV3DB470J | J | 47 2W Metal Oxide | AA |
| ⚠ R2616 | VRG-RF2HB1R0J | J | 1 1/2W Fuse Resistor | AA |
| ⚠ R2617 | VRG-RF2HB3R3J | J | 3.3 1/2W Fuse Resistor | AB |
| R2618 | VRD-RA2EE471J | J | 470 1/4W Carbon | AA |
| R2619 | VRS-VV3DB561J | J | 560 2W Metal Oxide (25AN1) | AA |
| R2620 | VRD-RA2EE560J | J | 56 1/4W Carbon | AA |
| R2621 | VRD-RA2BE153J | J | 15k 1/8W Carbon | AA |
| R2623 | VRD-RA2EE564J | J | 560k 1/4W Carbon | AA |
| R2626 | VRD-RA2BE272J | J | 2.7k 1/8W Carbon | AA |
| R2680 | VRD-RA2EE471J | J | 470 1/4W Carbon | AA |
| R2681 | VRD-RA2BE123J | J | 12k 1/8W Carbon | AA |
| | | | **MISCELLANEOUS PARTS** | |
| ⚠ F701 | QFS-C5022CEZZ | J | Fuse | AD |
| FB601 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB602 | RBLN-0010CEZZ | J | Ferrite Bead | AC |
| FB603 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB701 | RBLN-0010CEZZ | J | Ferrite Bead | AC |
| FB702 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB704 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB705 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB707 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB708 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB709 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB711 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| FB712 | RBLN-0037CEZZ | J | Ferrite Bead | AB |
| ⚠ | QPLGN0207CEZZ | J | Plug 2-pin, (G) | AA |
| | QPLGN0213GEZZ | J | Plug 2-pin, (XV) (XS) | AB |
| ⚠ | QPLGN0304CEZZ | J | Plug 3-pin, (AB) (AC) (AD) | AB |
| | QPLGN0313GEZZ | J | Plug 3-pin, (H) | AB |
| | QPLGN0513GEZZ | J | Plug 5-pin, (XA) | AB |
| | QPLGN0527CEZZ | J | Plug 5-pin, (K) | AC |
| | QPLGN0613GEZZ | J | Plug 6-pin, (VO) | AB |
| | QPLGN0878GEZZ | J | Plug 8-pin, (W) | AC |

—— End of PWB-B ——

# PWB-C DUNTK6802DE20/21
## CRT SOCKET UNIT

### TRANSISTORS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| ⚠Q2801 | VS2SC4544LB1E | J | 2SC4544LB | AD |
| ⚠Q2802 | VS2SC4544LB1E | J | 2SC4544LB | AD |
| ⚠Q2803 | VS2SC4544LB1E | J | 2SC4544LB | AD |

### COILS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| L2801 | VP-2K470K000K | J | 47μH | AB |
| L2802 | VP-2K470K000K | J | 47μH | AB |
| L2803 | VP-2K470K000K | J | 47μH | AB |

### CONTROLS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R2811 | RVR-B5588CEZZ | J | 500 (B) Green Drive | AB |
| R2812 | RVR-B5588CEZZ | J | 500 (B) Blue Drive | AB |
| R2816 | RVR-B5468CEZZ | J | 1k (B) Red Bias | AC |
| R2817 | RVR-B5468CEZZ | J | 1k (B) Green Bias | AC |
| R2818 | RVR-B5468CEZZ | J | 1k (B) Blue Bias | AC |

### CAPACITORS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| C2801 | VCKYAT1HB151K | J | 150p 50V Ceramic | AA |
| C2802 | VCKYPA1HB151K | J | 150p 50V Ceramic | AA |
| C2803 | VCKYPA1HB151K | J | 150p 50V Ceramic | AA |
| C2804 | VCKYAT1HB561K | J | 560p 50V Ceramic | AA |
| C2805 | VCKYAT1HB681K | J | 680p 50V Ceramic | AA |
| C2806 | VCKYAT1HB821K | J | 820p 50V Ceramic | AA |
| C2807 | VCEAGA2EW106M | J | 10 250V Electrolytic | AC |
| ⚠C2809 | RC-KZ0029CEZZ | J | 0.01 2kV Ceramic | AC |
| C2810 | VCKYPA1HB561K | J | 560p 50V Ceramic | AA |

### RESISTORS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R2801 | VRD-RA2BE470J | J | 47 1/8W Carbon | AA |
| R2802 | VRD-RA2BE470J | J | 47 1/8W Carbon | AA |
| R2803 | VRD-RA2BE470J | J | 47 1/8W Carbon | AA |
| R2804 | VRD-RA2BE270J | J | 27 1/8W Carbon | AA |
| R2805 | VRD-RA2BE270J | J | 27 1/8W Carbon | AA |
| R2806 | VRD-RA2BE270J | J | 27 1/8W Carbon | AA |
| R2807 | VRD-RA2BE151J | J | 150 1/8W Carbon | AA |
| R2808 | VRD-RA2BE151J | J | 150 1/8W Carbon | AA |
| R2809 | VRD-RA2BE151J | J | 150 1/8W Carbon | AA |
| R2810 | VRD-RA2BE151J | J | 150 1/8W Carbon | AA |
| R2811 | *See Controls* | | | |
| R2812 | *See Controls* | | | |
| R2813 | VRD-RA2BE391J | J | 390 1/8W Carbon | AA |
| R2814 | VRD-RA2BE391J | J | 390 1/8W Carbon | AA |
| R2815 | VRD-RA2BE391J | J | 390 1/8W Carbon | AA |
| R2816 | *See Controls* | | | |

### RESISTORS (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R2817 | *See Controls* | | | |
| R2818 | *See Controls* | | | |
| R2819 | VRS-VW3DB153J | J | 15k 2W Metal Oxide (25AN1) | AA |
| R2819 | VRS-VW3DB183J | J | 18k 2W Metal Oxide (29AN1) | AA |
| R2820 | VRS-VW3DB153J | J | 15k 2W Metal Oxide (25AN1) | AA |
| R2820 | VRS-VW3DB183J | J | 18k 2W Metal Oxide (29AN1) | AA |
| R2821 | VRS-VW3DB153J | J | 15k 2W Metal Oxide (25AN1) | AA |
| R2821 | VRS-VW3DB183J | J | 18k 2W Metal Oxide (29AN1) | AA |
| R2822 | VRC-MA2HG224M | J | 220k 1/2W Solid | AA |
| R2823 | VRC-MA2HG102M | J | 1k 1/2W Solid | AA |
| R2824 | VRC-MA2HG102M | J | 1k 1/2W Solid | AA |
| R2825 | VRC-MA2HG102M | J | 1k 1/2W Solid | AA |
| R2826 | VRS-VW3DB183J | J | 18k 2W Metal Oxide | AA |
| R2827 | VRS-VW3DB183J | J | 18k 2W Metal Oxide | AA |
| R2828 | VRS-VW3DB183J | J | 18k 2W Metal Oxide | AA |

### MISCELLANEOUS PARTS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| | QPLGN0313GEZZ | J | Plug 3-pin, (H) | AB |
| | QPLGN0578GEZZ | J | Plug 5-pin, (KY) | AB |
| ⚠ | QSOCV0919CEZZ | J | CRT Socket | AH |

—— End of PWB-C ——

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

## PWB-D DUNTK7834DE01 DUNTK7837DE01
### LED UNIT

**DIODES**

| | | | | |
|---|---|---|---|---|
| D1701 | RH-PX0274CEZZ | J | Photodiode (29AN1) | AC |
| D1701 | RH-PX0291CEZZ | J | Photodiode (25AN1) | AC |
| D1702 | RH-PX0326CEZZ | J | Photodiode (29AN1) | AC |
| D1703 | RH-PX0274CEZZ | J | Photodiode | AC |
| D1704 | RH-PX0274CEZZ | J | Photodiode | AC |

**CAPACITORS**

| | | | | | | |
|---|---|---|---|---|---|---|
| C1701 | VCKYD41CY103N | J | 0.01 | 16V | Ceramic | AA |
| C1702 | VCEAGA0JW107M | J | 100 | 6.3V | Electrolytic | AB |

**RESISTORS**

| | | | | | | |
|---|---|---|---|---|---|---|
| R1701 | VRD-RA2EE101J | J | 100 | 1/4W | Carbon | AA |
| R1702 | VRD-RA2EE101J | J | 100 | 1/4W | Carbon | AA |
| R1703 | VRD-RA2EE272J | J | 2.7k | 1/4W | Carbon | AA |
| R1704 | VRD-RA2EE272J | J | 2.7k | 1/4W | Carbon | AA |
| R1705 | VRD-RA2HD821J | J | 820 | 1/2W | Carbon | AA |
| R1706 | VRD-RA2EE272J | J | 2.7k | 1/4W | Carbon | AA |

**SWITCH**

| | | | | |
|---|---|---|---|---|
| ⚠S1701 | QSW-P0566CEZZ | J | Stand-By Switch | AL |

**MISCELLANEOUS PARTS**

| | | | | |
|---|---|---|---|---|
| ⚠ | QPLGN0434GEZZ | J | Plug 4-pin, (AA) | AE |
| | QPLGN0978GEZZ | J | Plug 9-pin, (O) | AC |
| | RRMCU0195CEZZ | J | Remote Control Reciever | AK |

—— End of PWB-D ——

## PWB-E DUNTK7833DE01 DUNTK7836DE01
### CONTROL UNIT

**SWITCHS**

| | | | | |
|---|---|---|---|---|
| ⚠S1711 | QSW-K0095CEZZ | J | Stand-By | AB |
| ⚠S1712 | QSW-K0095CEZZ | J | Channel Up | AB |
| ⚠S1713 | QSW-K0095CEZZ | J | Channel Down | AB |
| ⚠S1714 | QSW-K0095CEZZ | J | Vol-Up | AB |
| ⚠S1715 | QSW-K0095CEZZ | J | Vol-Down | AB |
| ⚠S1716 | QSW-K0095CEZZ | J | P-Mode | AB |
| ⚠S1717 | QSW-K0095CEZZ | J | P-Up | AB |
| ⚠S1718 | QSW-K0095CEZZ | J | P-Down | AB |
| ⚠S1721 | QSW-K0105CEZZ | J | Fine-Up, Fine-Down, Skip, System, P-Tone, Blue-Back, Surround, Auto-Up, Auto-Down, Preset | AP |

**MISCELLANEOUS PARTS**

| | | | |
|---|---|---|---|
| QPLGN0278GEZZ | J | Plug 2-pin, (TB) | AA |
| QPLGN0913GEZZ | J | Plug 9-pin, (RS) (T) | AB |

—— End of PWB-E ——

## PWB-F DUNTK7944DE01
### S-MUTE UNIT

**NOTE: The parts of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.**

**TRANSISTOR**

| | | | | |
|---|---|---|---|---|
| Q2301 | VS2SC3198-G-1 | J | 2SC3198(G) | AA |

**DIODES**

| | | | | |
|---|---|---|---|---|
| D2301 | VHD1SS119//1E | J | 1SS119 | AA |
| D2302 | VHD1SS119//1E | J | 1SS119 | AA |
| D2303 | RH-EX0153GEZZ | J | Zener Diode, 9.1V | AB |

**CAPACITORS**

| | | | | | | |
|---|---|---|---|---|---|---|
| C2301 | VCKYD41CY103N | J | 0.01 | 16V | Ceramic | AA |
| C2302 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |

**RESISTORS**

| | | | | | | |
|---|---|---|---|---|---|---|
| R2301 | VRD-RA2HD102J | J | 1k | 1/2W | Carbon | AA |
| R2302 | VRD-RA2BE470J | J | 47 | 1/8W | Carbon | AA |

**MISCELLANEOUS PART**

| | | | |
|---|---|---|---|
| QPLGN0478GEZZ | J | Plug 4-pin, (SS) | AB |

—— End of PWB-F ——

# PWM-A DUNTK6803DE05/06
## IF UNIT

### INTEGRATED CIRCUITS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| IC2001 | VHiLA7555//-1 | J | LA7555 | AM |
| IC2002 | VHiTA8710S/-1 | J | TA8710S | AL |

### TRANSISTORS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| Q2001 | VS2SC1906//1E | J | 2SC1906 | AC |
| Q2002 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q2003 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q2004 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q2005 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q2006 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q2007 | VS2SC3399//-1 | J | 2SC3399 | AB |
| Q2008 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q2010 | VS2SC3399//-1 | J | 2SC3399 | AB |

### DIODES

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| D2001 | VHD1SS119//1E | J | 1SS119 | AA |
| D2002 | VHD1SS119//1E | J | 1SS119 | AA |
| D2003 | VHD1SS119//1E | J | 1SS119 | AA |
| D2004 | VHD1SS119//1E | J | 1SS119 | AA |
| D2005 | RH-EX0440CEZZ | J | Zener Diode | AA |
| D2006 | VHD1SS119//1E | J | 1SS119 | AA |
| D2007 | VHD1SS119//1E | J | 1SS119 | AA |

### COILS AND TRANSFORMERS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| CF2001 | RFiLC0205CEZZ | J | Ceramic Filter | AD |
| CF2002 | RFiLC0078GEZZ | J | Ceramic Filter | AD |
| CF2003 | RFiLC0143CEZZ | J | Ceramic Filter | AD |
| CF2004 | RFiLC0144CEZZ | J | Ceramic Filter | AD |
| CF2005 | RFiLC0145CEZZ | J | Ceramic Filter | AE |
| CF2006 | RFiLC0174CEZZ | J | Ceramic Filter | AD |
| CF2007 | RFiLA0050CEZZ | J | Ceramic Filter | AC |
| CF2008 | RFiLC0084CEZZ | J | Ceramic Filter | AF |
| L2001 | VP-XF1R0K0000 | J | 1$\mu$H | AB |
| L2004 | VP-XF220K0000 | J | 22$\mu$H | AB |
| L2005 | VP-XF100K0000 | J | 10$\mu$H | AB |
| SF2001 | RFiLC0232CEZZ | J | Filter | AN |
| T2001 | RCiLi0543CEZZ | J | | AD |
| T2002 | RCiLD0199CEZZ | J | | AD |
| T2003 | RCiLD0096CEZZ | J | | AE |

### CAPACITORS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| C2001 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2002 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2003 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |

### CAPACITORS (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| C2004 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2005 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2006 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2007 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C2008 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2009 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2010 | VCEAGA1HW474M | J | 0.47 50V Electrolytic | AA |
| C2011 | VCFYHA1HA683J | J | 0.06850V M. Ployester | AB |
| C2012 | VCCCPA1HH9R0D | J | 9p 50V Ceramic | AA |
| C2013 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2014 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C2015 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2016 | VCEAGA1HW474M | J | 0.47 50V Electrolytic | AA |
| C2017 | VCEAGA1CW476M | J | 47 16V Electrolytic | AB |
| C2018 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2019 | VCKYD41CY103N | J | 0.01 16V Ceramic | AA |
| C2020 | VCQYTA1HM103J | J | 0.01 50V Mylar | AA |
| C2021 | VCQYTA1HM123J | J | 0.01250V Mylar | AA |
| C2022 | VCE9AA1CW106M | J | 10 16V Electrolytic (N.P) | AB |
| C2023 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2024 | VCEAGA1CW106M | J | 10 16V Electrolytic | AA |
| C2025 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2026 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2027 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C2028 | VCKYPA1HB471K | J | 470p 50V Ceramic | AA |
| C2029 | VCKYPA1HB471K | J | 470p 50V Ceramic | AA |
| C2030 | VCKYPA1HF103Z | J | 0.01 50V Ceramic | AA |
| C2031 | VCCCPA1HH680J | J | 68p 50V Ceramic | AA |
| C2032 | VCKYD41CY103N | J | 0.01 16V Ceramic | AA |
| C2033 | VCEAGA1CW107M | J | 100 16V Electrolytic | AB |
| C2034 | VCKYD41CY103N | J | 0.01 16V Ceramic | AA |

### RESISTORS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| R2001 | VRD-RA2BE562J | J | 5.6k 1/8W Carbon | AA |
| R2002 | VRD-RA2BE152J | J | 1.5k 1/8W Carbon | AA |
| R2003 | VRD-RA2BE680J | J | 68 1/8W Carbon | AA |
| R2004 | VRD-RA2BE332J | J | 3.3k 1/8W Carbon | AA |
| R2005 | VRD-RA2HD221J | J | 220 1/2W Carbon | AA |
| R2006 | VRD-RA2EE561J | J | 560 1/4W Carbon | AA |
| R2007 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R2008 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R2009 | VRD-RA2EE561J | J | 560 1/4W Carbon | AA |
| R2010 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R2011 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R2012 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R2013 | VRD-RA2BE223J | J | 22k 1/8W Carbon | AA |
| R2014 | VRD-RA2BE122J | J | 1.2k 1/8W Carbon | AA |
| R2015 | VRD-RA2BE103J | J | 10k 1/8W Carbon | AA |
| R2016 | VRD-RA2BE824J | J | 820k1/8W Carbon | AA |
| R2017 | VRD-RA2BE332J | J | 3.3k 1/8W Carbon | AA |
| R2018 | VRD-RA2BE561J | J | 560 1/8W Carbon | AA |
| R2019 | VRD-RA2BE151J | J | 150 1/8W Carbon | AA |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

# PWM-A DUNTK6803DE05/06

## IF UNIT (Continued)

### RESISTORS (Continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| R2020 | VRD-RA2BE222J | J | 2.2k | 1/8W | Carbon | AA |
| R2021 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R2022 | VRD-RA2HD471J | J | 470 | 1/2W | Carbon | AA |
| ⚠ R2023 | VRG-RF2EB220J | J | 22 | 1/4W | Fuse Resistor | AB |
| R2024 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon | AA |
| R2025 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon | AA |
| R2026 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R2027 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R2028 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R2029 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R2030 | VRD-RA2BE683J | J | 68k | 1/8W | Carbon | AA |
| R2031 | VRD-RA2BE683J | J | 68k | 1/8W | Carbon | AA |
| R2032 | VRD-RA2BE183J | J | 18k | 1/8W | Carbon | AA |
| R2033 | VRD-RA2BE683J | J | 68k | 1/8W | Carbon | AA |
| R2034 | VRD-RA2BE683J | J | 68k | 1/8W | Carbon | AA |
| R2036 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R2038 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon | AA |
| R2039 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon | AA |
| R2040 | VRD-RA2BE561J | J | 560 | 1/8W | Carbon | AA |
| R2041 | VRD-RA2BE561J | J | 560 | 1/8W | Carbon | AA |
| R2042 | VRD-RA2BE561J | J | 560 | 1/8W | Carbon | AA |
| R2043 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R2044 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R2045 | VRD-RA2EE105J | J | 1M | 1/4W | Carbon | AA |
| R2046 | VRD-RA2BE472J | J | 4.7k | 1/8W | Carbon | AA |
| R2047 | VRD-RA2BE561J | J | 560 | 1/8W | Carbon | AA |
| R2048 | VRD-RA2BE821J | J | 820 | 1/8W | Carbon | AA |
| R2049 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R2050 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |

### MISCELLANEOUS PARTS

| | | | | |
|---|---|---|---|---|
| | QPLGZ0607GEZZ | J | Plug 6-pin, (SH) | AC |
| | QPLGZ0707GEZZ | J | Plug 7-pin, (IF) | AB |

—— End of PWM-A ——

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

# PWM-B DUNTK6551DE11/12

## AV UNIT

### INTEGRATED CIRCUIT

| | | | | |
|---|---|---|---|---|
| IC1401 | VHiTA8742//-1 | J | TA8742 | AN |

### TRANSISTORS

| | | | | |
|---|---|---|---|---|
| Q1301 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q1302 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q1303 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q1304 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q1401 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1402 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1403 | VS2SC3198-G-1 | J | 2SC3198 (G) | AA |
| Q1404 | VS2SC3399//-1 | J | 2SC3399 | AB |
| Q1405 | VS2SC3399//-1 | J | 2SC3399 | AB |
| Q1406 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |
| Q1407 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |

### DIODES

| | | | | |
|---|---|---|---|---|
| D1301 | VHD1SS119//1E | J | 1SS119 | AA |
| D1302 | VHD1SS119//1E | J | 1SS119 | AA |
| D1303 | VHD1SS119//1E | J | 1SS119 | AA |
| D1304 | VHD1SS119//1E | J | 1SS119 | AA |
| D1305 | VHD1SS119//1E | J | 1SS119 | AA |
| D1402 | VHD1SS119//1E | J | 1SS119 | AA |
| D1403 | VHD1SS119//1E | J | 1SS119 | AA |
| D1404 | VHD1SS119//1E | J | 1SS119 | AA |
| D1405 | VHD1SS119//1E | J | 1SS119 | AA |
| D1406 | VHD1SS119//1E | J | 1SS119 | AA |

### COILS AND TRANSFORMERS

| | | | | |
|---|---|---|---|---|
| CF1401 | RFiLC0013CEZZ | J | Ceramic Filter | AE |
| L1401 | VP-DF150K0000 | J | Coil, 15$\mu$H | AB |
| L1402 | VP-DF120K0000 | J | Coil, 12$\mu$H | AB |

### CAPACITORS

| | | | | | | |
|---|---|---|---|---|---|---|
| C1301 | VCEAGA1HW475M | J | 4.7 | 50V | Electrolytic | AB |
| C1302 | VCEAGA1HW105M | J | 1 | 50V | Electrolytic | AC |
| C1303 | VCEAGA1HW105M | J | 1 | 50V | Electrolytic | AC |
| C1304 | VCEAGA1HW105M | J | 1 | 50V | Electrolytic | AC |
| C1305 | VCKYD41HB101K | J | 100p | 50V | Ceramic | AA |
| C1306 | VCEAGA1CW476M | J | 47 | 16V | Electrolytic | AB |
| C1307 | VCEAGA1HW105M | J | 1 | 50V | Electrolytic | AC |
| C1308 | VCCSPA1HL101J | J | 100p | 50V | Ceramic | AA |
| C1309 | VCEAGA1CW476M | J | 47 | 16V | Electrolytic | AB |
| C1401 | VCEAGA1CW107M | J | 100 | 16V | Electrolytic | AB |
| C1402 | VCCCPA1HH181J | J | 180p | 50V | Ceramic | AA |
| C1403 | VCCCPA1HH181J | J | 180p | 50V | Ceramic | AA |
| C1405 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |
| C1406 | VCCCPA1HH820J | J | 82p | 50V | Ceramic | AA |

# PWM-B DUNTK6551DE11/12

## AV UNIT (Continued)

### CAPACITORS (Continued)

| Ref. No. | Part No. | ★ | Description | | | Code |
|---|---|---|---|---|---|---|
| C1407 | VCE9AA1HW105M | J | 1 | 50V | Electrolytic (N.P.) | AB |
| C1408 | VCE9AA1HW105M | J | 1 | 50V | Electrolytic (N.P.) | AB |
| C1410 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C1411 | VCEAGA1CW107M | J | 100 | 16V | Electrolytic | AB |
| C1412 | VCEAGA1CW477M | J | 470 | 16V | Electrolytic | AC |
| C1413 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |
| C1414 | VCEAGA1CW107M | J | 100 | 16V | Electrolytic | AB |
| C1415 | VCEAGA1CW107M | J | 100 | 16V | Electrolytic | AB |
| C1416 | VCEAGA1CW107M | J | 100 | 16V | Electrolytic | AB |
| C1417 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C1418 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |

### RESISTORS

| Ref. No. | Part No. | ★ | | | | Code |
|---|---|---|---|---|---|---|
| R1301 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1304 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1305 | VRD-RA2EE562J | J | 5.6k | 1/4W | Carbon | AA |
| R1306 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1307 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1308 | VRD-RA2EE562J | J | 5.6k | 1/4W | Carbon | AA |
| R1309 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1310 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1311 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1312 | VRD-RA2BE473J | J | 47k | 1/8W | Carbon | AA |
| R1313 | VRD-RA2BE473J | J | 47k | 1/8W | Carbon | AA |
| R1314 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R1315 | VRD-RA2BE183J | J | 18k | 1/8W | Carbon | AA |
| R1316 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1317 | VRD-RA2EE152J | J | 1.5k | 1/4W | Carbon | AA |
| R1318 | VRD-RU2EE681J | J | 680 | 1/4W | Carbon | AA |
| R1319 | VRD-RA2BE104J | J | 100k | 1/8W | Carbon | AA |
| R1322 | VRD-RA2EE152J | J | 1.5k | 1/4W | Carbon | AA |
| R1323 | VRD-RA2BE104J | J | 100k | 1/8W | Carbon | AA |
| R1324 | VRD-RA2EE681J | J | 680 | 1/4W | Carbon | AA |
| R1325 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R1326 | VRD-RA2BE183J | J | 18k | 1/8W | Carbon | AA |
| R1327 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1328 | VRD-RA2BE393J | J | 39k | 1/8W | Carbon | AA |
| ⚠ R1401 | VRG-RF2EB100J | J | 10 | 1/4W | Fuse Resistor | AB |
| R1402 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1403 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1404 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R1405 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R1406 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R1407 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R1408 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |
| R1409 | VRD-RA2EE561J | J | 560 | 1/4W | Carbon | AA |
| R1410 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R1411 | VRD-RA2BE562J | J | 5.6k | 1/8W | Carbon | AA |

### RESISTORS (Continued)

| Ref. No. | Part No. | ★ | | | | Code |
|---|---|---|---|---|---|---|
| R1412 | VRD-RA2BE681J | J | 680 | 1/8W | Carbon | AA |
| R1413 | VRD-RA2BE821J | J | 820 | 1/8W | Carbon | AA |
| R1414 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1415 | VRD-RA2EE331J | J | 330 | 1/4W | Carbon | AA |
| R1416 | VRD-RA2EE221J | J | 220 | 1/4W | Carbon | AA |
| R1418 | VRD-RA2BE331J | J | 330 | 1/8W | Carbon | AA |
| R1419 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1421 | VRD-RA2BE473J | J | 47k | 1/8W | Carbon | AA |
| ⚠ R1422 | VRG-RF2EB100J | J | 10 | 1/4W | Fuse Resistor | AB |
| R1425 | VRD-RA2HD471J | J | 470 | 1/2W | Carbon | AA |
| R1426 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R1427 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| ⚠ R1428 | VRG-RF2EB100J | J | 10 | 1/4W | Fuse Resistor | AB |
| ⚠ R1429 | VRG-RF2EB100J | J | 10 | 1/4W | Fuse Resistor | AB |
| R1430 | VRD-RA2HD221J | J | 220 | 1/2W | Carbon | AA |
| R1431 | VRD-RA2EE750J | J | 75 | 1/4W | Carbon | AA |
| R1432 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R1433 | VRD-RA2EE750J | J | 75 | 1/4W | Carbon | AA |
| R1434 | VRD-RA2BE473J | J | 47k | 1/8W | Carbon | AA |
| R1435 | VRD-RA2BE473J | J | 47k | 1/8W | Carbon | AA |
| R1440 | VRD-RA2EE102J | J | 1 | 1/4W | Carbon | AA |

### MISCELLANEOUS PARTS

| | | | | |
|---|---|---|---|---|
| | QPLGN0562CEZZ | J | Plug 5-pin, (V1) (V2) | AB |
| | QPLGN0762CEZZ | J | Plug 7-pin, (V3) | AB |
| | QPLGN1062CEZZ | J | Plug 10-pin, (V4) | AC |

—— End of PWM-B ——

# PWM-C DUNTK6547DE09/10

## VCJ UNIT

### INTEGRATED CIRCUIT

| | | | | |
|---|---|---|---|---|
| IC1801 | RH-iX0969CEN1 | J | TA8659AN | BA |

### TRANSISTOR

| | | | | |
|---|---|---|---|---|
| Q2401 | VS2SA1266-Y-1 | J | 2SA1266 (Y) | AA |

### DIODES

| | | | | |
|---|---|---|---|---|
| D1601 | RH-EX0395GEZZ | J | Zener Diode | AA |
| D1602 | RH-EX0041TAZZ | J | Zener Diode | AC |
| D1603 | RH-EX0384GEZZ | J | Zener Diode | AA |
| D1801 | RH-EX0395GEZZ | J | Zener Diode | AA |

—— End of PWM-C ——

# PWM-C DUNTK6547DE09/10

## VCJ UNIT (Continued)

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

### PACKAGED CIRCUITS

| | | | | |
|---|---|---|---|---|
| X1801 | RCRSB0002CEZZ | J | Crystal | AM |
| X1802 | RCRSB0005CEZZ | J | Crystal | AN |

### COIL AND TRANSFORMERS

| | | | | |
|---|---|---|---|---|
| CF1601 | RFiLA0005CEZZ | J | Ceramic Filter | AE |
| DL1801 | RCiLZ0475CEZZ | J | Coil | AP |
| DL2401 | RCiLZ0629CEZZ | J | Coil | AG |
| L1801 | VP-DF8R2K0000 | J | 8.2$\mu$H | AB |
| L2401 | VP-MK390K0000 | J | 39$\mu$H | AB |
| T1801 | RCiLZ0511CEZZ | J | Coil | AD |
| T1901 | RCiLi0435CEZZ | J | IF Coil | AE |
| T1902 | RCiLi0435CEZZ | J | IF Coil | AE |
| T1903 | RCiLi0364CEZZ | J | IF Coil | AD |
| T1904 | RCiLi0435CEZZ | J | IF Coil | AE |

### CONTROLS

| | | | | |
|---|---|---|---|---|
| R1804 | RVR-B5266CEZZ | J | 20k (B) Sub-Color | AB |
| R1805 | RVR-B5265CEZZ | J | 10k (B) Sub-Hue. | AB |
| R1810 | RVR-B5261CEZZ | J | 1k (B) DL-Amp | AB |

### CAPACITORS

| | | | | | | |
|---|---|---|---|---|---|---|
| C1601 | VCEAGA1CW227M | J | 220 | 16V | Electrolytic | AC |
| C1602 | VCQYTA1HM223J | J | 0.022 | 50V | Mylar | AA |
| C1603 | VCEAGA1HW225M | J | 2.2 | 50V | Electrolytic | AB |
| C1604 | VCQYTA1HM223J | J | 0.022 | 50V | Mylar | AA |
| C1605 | VCCCPA1HH121J | J | 120p | 50V | Ceramic | AA |
| C1606 | VCCCPA1HH101J | J | 100p | 50V | Ceramic | AA |
| C1608 | VCEAGA1HW105M | J | 1 | 50V | Electrolytic | AC |
| C1611 | VCEAGA0JW107M | J | 100 | 6.3V | Electrolytic | AB |
| C1612 | VCKYD41CY103N | J | 0.01 | 16V | Ceramic | AA |
| C1801 | VCFYHA1HA104J | J | 0.1 | 50V | M. Polyester | AB |
| C1804 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |
| C1805 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C1806 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |
| C1807 | VCKYD41CY103N | J | 0.01 | 16V | Ceramic | AA |
| C1808 | VCKYD41CY103N | J | 0.01 | 16V | Ceramic | AA |
| C1812 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C1813 | VCFYHA1HA563J | J | 0.056 | 50V | M. Polyester | AB |
| C1814 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C1815 | VCE9AA1HW105M | J | 1 | 50V | Electrolytic (N.P) | AB |
| C1816 | VCQYTA1HM103J | J | 0.01 | 50V | Mylar | AA |
| C1817 | VCCCPA1HH220J | J | 22p | 50V | Ceramic | AA |
| C1818 | VCCCPA1HH330J | J | 33p | 50V | Ceramic | AA |
| C1819 | VCCCPA1HH220J | J | 22p | 50V | Ceramic | AA |
| C1820 | VCCCPA1HH150J | J | 15p | 50V | Ceramic | AA |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

### CAPACITORS (Continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| C1821 | VCEAGA1HW474M | J | 0.47 | 50V | Electrolytic | AA |
| C1822 | VCFYHA1HA563J | J | 0.056 | 50V | M. Polyester | AB |
| C1901 | VCEAGA1HW474M | J | 0.47 | 50V | Electrolytic | AA |
| C1902 | VCCSPA1HL181J | J | 180p | 50V | Ceramic | AA |
| C1903 | VCEAGA1HW474M | J | 0.47 | 50V | Electrolytic | AA |
| C1904 | VCCSPA1HL181J | J | 180p | 50V | Ceramic | AA |
| C1905 | VCCSPA1HL181J | J | 180p | 50V | Ceramic | AA |
| C1906 | VCCSPA1HL151J | J | 150p | 50V | Ceramic | AA |
| C1907 | VCCCPA1HH390J | J | 39p | 50V | Ceramic | AA |
| C1908 | VCCCPA1HH180J | J | 18p | 50V | Ceramic | AA |
| C1909 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C1910 | VCCCPA1HH151J | J | 150p | 50V | Ceramic | AA |
| C1911 | VCCCD11HH220J | J | 22p | 50V | Ceramic | AA |
| C1912 | VCFYHA1HA563J | J | 0.056 | 50V | M. Polyester | AB |
| C1913 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C2401 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C2402 | VCEAGA1CW477M | J | 470 | 16V | Electrolytic | AC |
| C2403 | VCEAGA1CW476M | J | 47 | 16V | Electrolytic | AB |
| C2404 | VCEAGA1CW227M | J | 220 | 16V | Electrolytic | AC |
| C2405 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C2406 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |
| C2407 | VCEAGA1HW105M | J | 1 | 50V | Electrolytic | AC |
| C2408 | VCCCPA1HH560J | J | 56p | 50V | Ceramic | AA |
| C2409 | VCCCPA1HH101J | J | 100p | 50V | Ceramic | AA |
| C2410 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |
| C2411 | VCEAAA1HW224T | J | 0.22 | 50V | Electrolytic | AB |
| C2412 | VCEAAA1HW224T | J | 0.22 | 50V | Electrolytic | AB |
| C2413 | VCEAAA1HW224T | J | 0.22 | 50V | Electrolytic | AB |
| C2414 | VCKYPA1HF103Z | J | 0.01 | 50V | Ceramic | AA |
| C2418 | VCEAGA1CW106M | J | 10 | 16V | Electrolytic | AA |

### RESISTORS

| | | | | | |
|---|---|---|---|---|---|
| R1601 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon AA |
| R1602 | VRD-RA2BE471J | J | 470 | 1/8W | Carbon AA |
| R1603 | VRD-RA2BE332J | J | 3.3k | 1/8W | Carbon AA |
| R1604 | VRD-RA2BE333J | J | 33k | 1/8W | Carbon AA |
| R1605 | VRD-RA2BE154J | J | 150k | 1/8W | Carbon AA |
| R1606 | VRD-RA2BE471J | J | 470 | 1/8W | Carbon AA |
| R1609 | VRD-RA2BE563J | J | 56k | 1/8W | Carbon AA |
| R1610 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon AA |
| R1611 | VRD-RA2BE223J | J | 22k | 1/8W | Carbon AA |
| R1801 | VRD-RA2BE682J | J | 6.8k | 1/8W | Carbon AA |
| R1802 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon AA |
| R1803 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon AA |
| R1804 | *See Controls* | | | | |
| R1805 | *See Controls* | | | | |
| R1806 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon AA |
| R1807 | VRD-RA2BE104J | J | 100k | 1/8W | Carbon AA |
| R1808 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon AA |
| R1809 | VRD-RA2BE391J | J | 390 | 1/8W | Carbon AA |
| R1810 | *See Controls* | | | | |
| R1811 | VRD-RA2BE222J | J | 2.2k | 1/8W | Carbon AA |
| R1812 | VRD-RA2BE334J | J | 330k | 1/8W | Carbon AA |

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

# PWM-C DUNTK6547DE09/10
VCJ UNIT (Continued)

## RESISTORS (Continued)

| | | | | | | |
|---|---|---|---|---|---|---|
| R1813 | VRD-RA2BE153J | J | 15k | 1/8W | Carbon | AA |
| R1816 | VRD-RA2BE333J | J | 33k | 1/8W | Carbon | AA |
| R1817 | VRD-RA2EE475J | J | 4.7M | 1/4W | Carbon | AA |
| R1820 | VRD-RA2BE222J | J | 2.2k | 1/8W | Carbon | AA |
| R1821 | VRD-RA2BE222J | J | 2.2k | 1/8W | Carbon | AA |
| R1822 | VRD-RA2EE475J | J | 4.7M | 1/4W | Carbon | AA |
| R1823 | VRD-RA2BE332J | J | 3.3k | 1/8W | Carbon | AA |
| R1824 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1825 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1826 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1827 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1901 | VRD-RA2BE561J | J | 560 | 1/8W | Carbon | AA |
| R1902 | VRD-RA2BE822J | J | 8.2k | 1/8W | Carbon | AA |
| R1903 | VRD-RA2BE561J | J | 560 | 1/8W | Carbon | AA |
| R1904 | VRD-RA2BE822J | J | 8.2k | 1/8W | Carbon | AA |
| R1905 | VRD-RA2BE102J | J | 1k | 1/8W | Carbon | AA |
| R1906 | VRD-RA2BE681J | J | 680 | 1/8W | Carbon | AA |
| R1907 | VRD-RA2BE102J | J | 1.0k | 1/8W | Carbon | AA |
| R1909 | VRD-RA2EE475J | J | 4.7M | 1/4W | Carbon | AA |
| R1911 | VRD-RA2BE222J | J | 2.2k | 1/8W | Carbon | AA |
| R2402 | VRD-RA2BE182J | J | 1.8k | 1/8W | Carbon | AA |
| R2403 | VRD-RA2BE222J | J | 2.2k | 1/8W | Carbon | AA |
| R2404 | VRD-RA2BE681J | J | 680 | 1/8W | Carbon | AA |
| R2405 | VRD-RA2BE823J | J | 82k | 1/8W | Carbon | AA |
| R2406 | VRD-RA2BE154J | J | 150k | 1/8W | Carbon | AA |
| R2407 | VRD-RA2BE103J | J | 10k | 1/8W | Carbon | AA |
| R2408 | VRD-RA2BE152J | J | 1.5k | 1/8W | Carbon | AA |
| R2409 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R2410 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |
| R2411 | VRD-RA2BE101J | J | 100 | 1/8W | Carbon | AA |

## MISCELLANEOUS PARTS

| | | | | |
|---|---|---|---|---|
| QPLGN0278GEZZ | J | Plug 2-pin, (CC) (CP) (CS) | | AA |
| QPLGN0662CEZZ | J | Plug 6-pin, (Y1) (Y4) | | AB |
| QPLGN0878GEZZ | J | Plug 8-pin, (SY) | | AC |
| QPLGN0962CEZZ | J | Plug 9-pin, (Y3) | | AC |
| QPLGN1062CEZZ | J | Plug 10-pin, (Y2) | | AC |

End of PWM-C

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|

# MISCELLANEOUS PARTS

| | | | | |
|---|---|---|---|---|
| SP301 | VSP1208PB088A | J | Speaker (25AN1) | AS |
| SP301 | RSP-Z0067CEN1 | J | Speaker (29AN1) | AZ |
| SP302 | VSP1208PB088A | J | Speaker (25AN1) | AS |
| SP302 | RSP-Z0066CEN1 | J | Speaker (29AN1) | AZ |
| ⚠ | CACCZ3022CE02 | J | AC Cord | AM |

End of MISCELLANEOUS PARTS

# PACKING PARTS
*(NOT REPLACEMENT ITEM)*

| | | | |
|---|---|---|---|
| SPAKC4512CEZZ | – | Packing Case (25AN1) | — |
| SPAKC4513CEZZ | – | Packing Case (29AN1) | — |
| SPAKP0537CEZZ | – | Polystyrene Mat | — |
| SPAKX2125CEZZ | – | Buffer Material (29AN1) | — |
| SPAKX2263CEZZ | – | Buffer Material (25AN1) | — |
| TLABK0001TAZZ | – | Number Card | — |
| SPAKC4539CEZZ | – | Packing Case (29AN1) (HONG KONG) | — |
| SPAKC4540CEZZ | – | Packing Case (25AN1) (HONG KONG) | — |

End of PACKING PARTS

# SUPPLIED ACCESSORIES

## ACCESSORIES

| | | | |
|---|---|---|---|
| QPLGA0011CEZZ | J | AC Plug Adaptor | AF |
| RRMCG0933CESA | R | Infrared Remote Controller | AW |

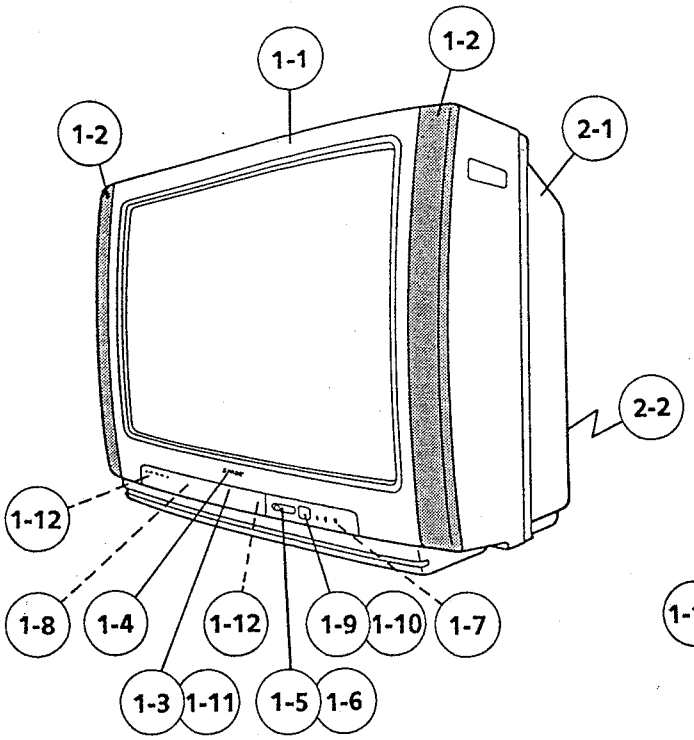
## ACCESSORIES (*NOT REPLACEMENT ITEM*)

| | | | |
|---|---|---|---|
| TINS-5005CEZZ | – | Operation Manual (29AN1) | — |
| TINS-5006CEZZ | – | Operation Manual (25AN1) | — |
| UBATU0023GEZZ | – | Dry Batteries, Size AAA (2 pcs) | — |

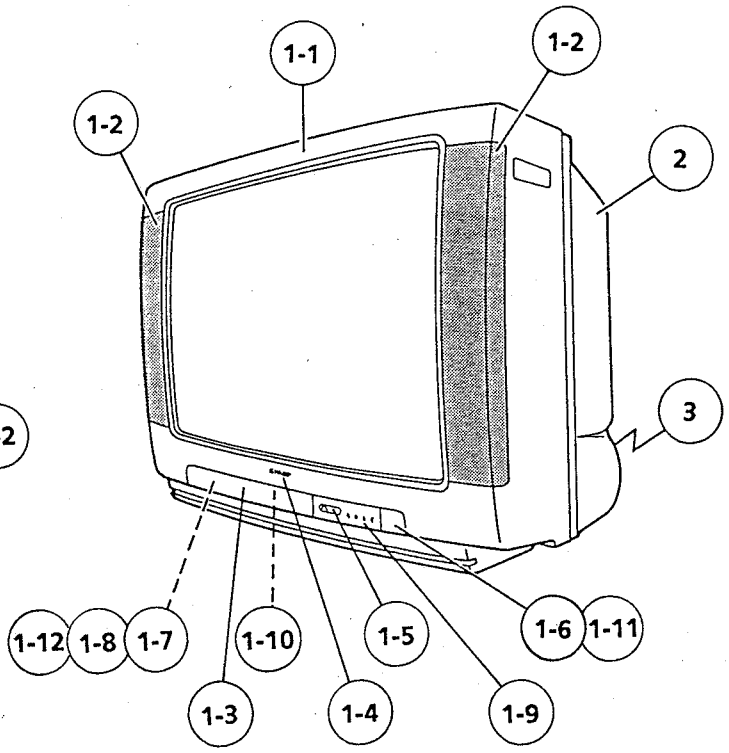
End of SUPPLIED ACCESSORIES

# CABINET PARTS LOCATION

MODEL 25AN1




MODEL 29AN1




## MODEL 25AN1 CABINET PARTS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| 1 | CCABA2032CE01 | J | Cabinet Ass'y, Front | BT |
| 1-1 | *Not Available* | – | Cabinet, Front | — |
| 1-2 | *Not Available* | – | Perforation Cover | — |
| 1-3 | GDORF1944CESA | J | Door | AL |
| 1-4 | HBDGB3097CESA | J | Badge "SHARP" | AG |
| 1-5 | HDECP0145CEZZ | J | Decoration Plate, R/C | AC |
| 1-6 | HDECQ0547CESA | J | Decoration Plate, Window | AE |
| 1-7 | HDECQ0548CESA | J | Decoration Plate, LED | AD |
| 1-8 | HiNDP4173CEZZ | J | Indication Plate, inside the door | AG |
| 1-9 | JBTN-1785CESA | J | Button, Power | AC |
| 1-10 | MSPRC0061CEFW | J | Spring, Power Button | AA |
| 1-11 | PKAi-1085CE00 | J | Door Latch | AD |
| 1-12 | PSPAG0162CE00 | J | Rubber Spacer | AA |
| 2 | CCABB2029CE01 | J | Cabinet Ass'y, Rear | BG |
| 2-1 | *Not Available* | – | Cabinet Rear | — |
| 2-2 | HiNDP4175CEZZ | J | Indication Plate | AF |

—— End of CABINET PARTS ——

## MODEL 29AN1 CABINET PARTS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| 1 | CCABA2033CE01 | J | Cabinet Ass'y, Front | BS |
| 1-1 | *Not Available* | | Cabinet, Front | — |
| 1-2 | *Not Available* | | Perforation Cover | — |
| 1-3 | GDORF1911CESA | J | Door | AL |
| 1-4 | HBDGB3091CESA | J | Badge "SHARP" | AG |
| 1-5 | HiNDP3863CESA | J | Indication Plate | AD |
| 1-6 | JBTN-1714CESA | J | Button, Power | AC |
| 1-7 | HiNDP4171CEZZ | J | Indication Plate, inside the door | AF |
| 1-8 | HiNDP4172CEZZ | J | Indication Plate, reverse side the door | AE |
| 1-9 | HDECQ0502CESA | J | Decoration Plate, LED | AG |
| 1-10 | PKAi-1085CE00 | J | Door Latch | AD |
| 1-11 | MSPRC0061CEFW | J | Spring, Power Button | AA |
| 1-12 | PSPAG0162CE00 | | Rubber Spacer | AA |
| 2 | CCABB1976CE02 | J | Cabinet Ass'y, Rear | BM |
| 3 | HPNLH1041CEZZ | J | Rear Panel | AL |

—— End of CABINET PARTS ——

25AN1
29AN1

SHARP

禁　持　出
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商品信頼性管理センター

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